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FISH AND WILDLIFE NEWS

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Fish & Wildlife Service
UNITED STATES DEPARTMENT OF THE INTERIOR
JUNE-JULY 1980

Federal-State Section of Fish and Wildlife Policy Under Review

The first step toward development of a national policy to assure effective protection of U.S. fish and wildlife has been announced by the Department of the Interior, which has published a draft section to clarify Federal—State responsibilities for these resources in the May 2, 1980, *Federal Register*.

The Federal—State jurisdiction section is an effort to clarify management responsibilities for fish and wildlife resources on public lands. It recognizes the critical role played by State agencies in the conservation of resident fish and wildlife. The draft section is a first step toward forming a policy that will eventually encompass a number of fish and wildlife issues. Strategies for additional specific areas of wildlife management will be addressed in later proposals.

The National Fish and Wildlife Policy will address a wide range of topics, including ecological, economic, esthetic, and other values that affect fish and wildlife. Considerations which may be addressed include human attitudes toward wildlife which have an impact on their management, subsistence uses and Native claims, and management strategies for maintaining natural ecosystems and their biological diversity.

Other important considerations include law enforcement to protect fish and wildlife, protection of endangered species, positive and negative aspects of non-native (exotic) species introductions, animal damage management, and international programs relating to species that migtrate across national borders.

A National Fish and Wildlife Policy would provide one document to guide

cont. on p. 10

Corrections

On page 1 of the April-May edition of *Fish and Wildlife News*, Deputy Associate Director for Wildlife Resources Robert Gilmore was incorrectly referred to as James Gilmore in a photo cutline.

Because of a printer's error on page 10 of the same issue, the identifications of Assistant Secretary for Fish and Wildlife and Parks Robert Herbst and James W. Moorman, assistant attorney general for the land and natural resources division of the Department of Justice, were incorrectly reversed in a photo cutline.

Fish and Wildlife News regrets these errors.

Peregrine Clears Final Hurdle

Hatch Young on New Jersey Refuges

The future is looking brighter for the endangered peregrine falcon.

In an historic first for this severely depleted bird-of-prey, captive-bred adult peregrines have returned to release sites of two of the Service's National Wildlife Refuges in New Jersey to successfully lay fertile eggs and hatch four chicks.

Second Washington Release Underway

The reproductive success in New Jersey represents the first time in over 20 years that peregrine falcons have been known to fledge their own young from eyries in the eastern United States. The fact that captive-reared and released peregrines are able to reproduce and raise young on their own has given added encouragement to biologists who hope to reestablish self-sustaining populations of the species in the East. DDT and other pesticides wiped the birds out east of the Mississippi River and severely depleted the western population in the 1950's and 1960's.

One pair of artificially-reintroduced adults successfully produced two male and one female hatchlings at Manahawkin, New Jersey, on

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Washington strip .... p. 12

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photos by Edwin Cruz

The South Bronx—once the bedroom for New York City's upwardly mobile middle class, it is now a landscape of shattered buildings and broken hopes.

"Mean Streets" of the South Bronx Feel Fish and Wildlife Service Touch

Agency Sponsors First Urban YACC Program

Peter Sulch
Regional Youth Programs Coordinator
Region 5, Boston

There may not be any Canada geese grazing in the South Bronx as a result of the efforts of the first urban Young Adult Conservation Corps camp in the Nation, but the 50 enrollees and nine staffers are certainly improving the human habitat against the otherwise blighted landscape of this section of New York City.

The Fish and Wildlife Service began the first urban YACC program last April amid the rubble and ruin of this problem-plagued borough. Here, arson and abandoned buildings prevail, making the South Bronx one of the most devastated inner-city areas in the United States. Its most common comparison is to World War II Dresden, fire-bombed into oblivion in a raid more deadly than Hiroshima.

Currently an area of social and economic, as well as physical, blight, the South Bronx is home to about 600,000 residents. Despite the large concentration of people on about 9,000 acres of land, there is no system of self-autonomy in much of the municipal government, beyond the six community planning boards that the South Bronx is divided among. All essential services for the area are provided by the New York City administration Limited by its budgetary woes, the City has not been able to stem the tide of rapid deterioration or provide for many of the severe economic and social needs of the South Bronx.

As a South Bronx Development Office report states, "... The lowered average income of residents, rent control, and other factors have helped to make landlords, the major providers of housing in the South Bronx, lose interest in maintaining or continuing to own their own properties."

Federal Assistance

Faced by the magnitude of this situation, the Fish and Wildlife Service's youth project represents the first major Federal program in this area to take an innovative approach within the overall South Bronx development plan.

Working with local community groups, the Service is involved in a program to help strengthen previous Federal and local commitments toward stabilizing and enhancing the appearance of inner city neighborhoods. It is bringing Federal assistance to the area in the form of jobs for young adults, as well as stimulating the local economy.

The 50 South Bronx enrollees now on board have begun the first of many "cleaning and greening" projects on vacant, City-owned lots of one-half to 2 acres.

Various new approaches to urban conservation are being introduced. By using a specified combination of cement and debris to make rubble-based tree planters and low border walls, for instance, the program is making use of an otherwise worthless commodity. Another innovative approach includes grinding rubble and old bricks into "pea stone" for use as

YACC camp director Edwin Cruz surveys some of the work that his young people are performing in the South Bronx.

FISH AND WILDLIFE NEWS

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David Klinger, Editor, *Fish and Wildlife News*

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surface cover. These techniques, as well as the use of other readily-accessible materials, will go toward improving vacant, City-owned lots.

Before beginning any work on vacant lots, local community groups are asked to serve as sponsors, to provide minimal maintenance once the lots have been rehabilitated.

Possible Model

Local resident Edwin Cruz, camp director for the YACC program, feels that his project can serve as a model for future urban programs. Cruz attributes many of the social and economic conditions in his community to the unusually high unemployment rate in the South Bronx—currently over 40 percent for black and Hispanic youth.

In its small way, the Fish and Wildlife Service is taking a positive step toward reclaiming a part of this community for its people, and making a future investment in some of its young adults, far from the nearest "Blue Goose" sign.

88 FASHIONS

Far from a refuge setting, the workplace of these Fish and Wildlife Service young people is the urban sidewalk. YACC crews have been put to work clearing vacant lots and sprucing up inner-city neighborhoods.

Peregrine

cont. from p. 1

property owned by the A.T. & T. Long Lines Division and managed under lease by Barnegat National Wildlife Refuge. A second pair hatched a lone female at Brigantine National Wildlife Refuge, farther down the New Jersey shore near Atlantic City.

"This is the final test, the proof of the pudding," says Dr. Thomas J. Cade, director of the Peregrine Fund, about the newly-hatched young. "This is what we've been waiting to see, proving that our techniques work. The final hurdle was what has just been accomplished, namely, that these captive-bred peregrines can reproduce on their own."

A second relese project in Washington, D. C., is being conducted this summer by the Peregrine Fund at the Smithsonian Institution. Six hatchlings—four males and two females approximately 6-weeks-old—were placed in a release box on the south tower of the Smithsonian's headquarters "Castle" on June 19. There they will reside under the care of two attendants, testing their wings and preparing for their first flights over Washington's downtown Mall. Biologists removed the caged front of the box on June 30. The peregrines are now gradually being taken off of the food their attendants are providing as they begin capturing prey on their own.

—David Klinger
Office of Current Information

Assistant Secretary Herbst to Chair Great Lakes Fishery Commission

Assistant Secretary Robert L. Herbst was selected chairman of the Great Lakes Fishery Commission at the international group's annual meeting June 5 in Duluth, Minnesota.

Herbst will serve a 2-year term as head of the Commission, which was established in 1955 by the United States and Canada to control the sea lamprey in the Great Lakes and to rehabilitate a commercial and sport fishery badly damaged by the lamprey, overfishing, and loss of fish habitat.

"I am very proud to be selected to head the Commission during its silver anniversary year," Herbst said. "In 25 years it has worked a near miracle in restoring a fishery that appeared to be on the brink of extinction.

"We now have a sport and commercial fishing resource in the Great Lakes with a total economic value of $1.16 billion, which is a graphic demonstration of an international program that has made a tremendous improvement to a complex marine environment, improving economic and recreation resources for millions of Americans and Canadians."

Fishery Plan

Herbst noted that the Commission is sponsoring a research program to develop a Great Lakes strategic fishery plan. "This fishery was almost destroyed by our inability to see problems until they almost overwhelmed us," Herbst said. "We certainly have a clear mandate to collect the hard information and do the advance planning that will protect this resource against future threats of all kinds."

Many Groups

The Great Lakes Fishery Commission has eight members, four appointed by the President and four by the Prime Minister of Canada. Most of its research is done through the offices of the U.S. Fish and Wildlife Service and the Department of Fisheries and Oceans in Canada. It also cooperates with a wide variety of sport and commercial fishing programs sponsored by the eight Great Lakes States, the Province of Ontario, Indian tribes, and private fishing and conservation groups.

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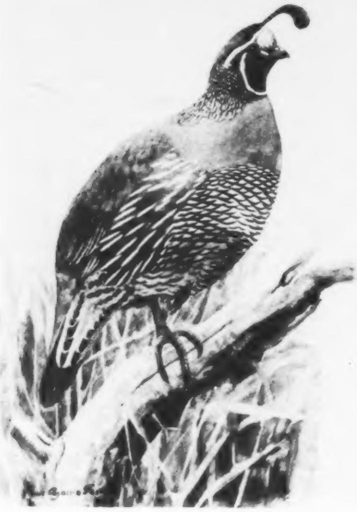
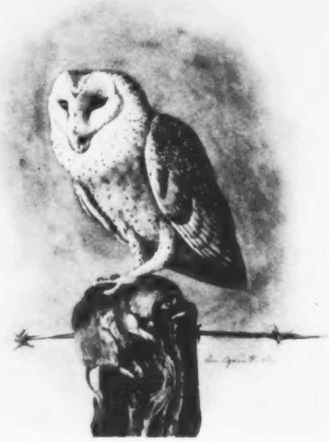
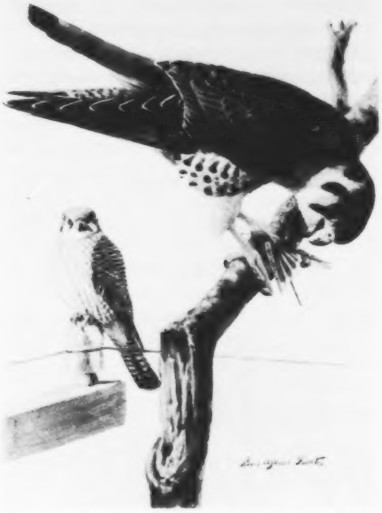


California Valley quail



Barn owl



photos by Dillon and Company, Philadelphia

Sparrow hawk

Preserving Wildlife Artwork for the Ages

Restoration a Slow, Costly Process for Service's Paintings

While most of us work for the present, Willman Spawn toils for the ages.

Under the expert hands of this conservator from the American Philosophical Society, 487 of the Fish and Wildlife Service's most prized works of wildlife art are undergoing a rebirth.

Much of the collection, representing 26 of America's most noted wildlife artists and valued at close to a half million dollars, is slowly, painstakingly being restored by Spawn under the direction of the Philadelphia Academy of Natural Sciences, which is caring for the works under a 25-year loan agreement with the Service.

"It goes very slow," Spawn says, rhythmically pulling each work of art from acid-free cardboard boxes and stacking them, ruffed grouse on top of gadwall on top of Cooper's hawk. He carries on his comparatively rare trade at the Society and in an air-conditioned vault in the creaky headquarters of the Academy in downtown Philadelphia, methodically going about his task of restoring what *was* into what *will* be.

The art collection, including over 220 works by famed artist Louis Agassiz Fuertes, was "rediscovered" 2 years ago in a vault at the Fish and Wildlife Service Laboratory in Washington, D.C., where they had been stored for the previous 50 years.

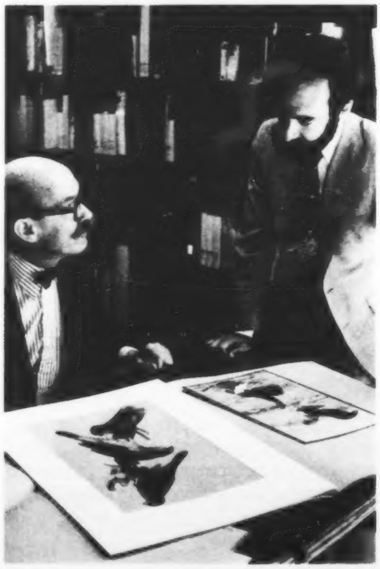


photo by David Klinger

Willman Spawn, conservator with the American Philosophical Society, discusses the restoration of the Fish and Wildlife Service's art collection with Bob Peck, special assistant to the president of the Philadelphia Academy of Natural Sciences.

Most of them had been commissioned by the Bureau of Biological Survey—a predecessor agency of the Fish and Wildlife Service—between 1890 and 1927.

They are now gradually coming out of retirement, many to be seen by the general public for the first time in a variety of major exhibitions and displays sponsored by the Academy.

Restoration Process

Sixty of the works in most desperate need of restoration have already felt the touch of Spawn's tools—a 3 to 4 hour process by which the acidic cardboard backing of the watercolor and wash paintings is stripped away, down to the fine line between worthless mounting board and priceless work of art.

"Everything changes somewhat," Spawn says, noting the discoloration, brittleness, and crumbling that plague some of Fuertes' works. "We're seeing the neglect of years, and there's some that you can only do so much for."

After surgery with scalpel and scissors, the paintings are remounted on special rag paper "museum board" and affixed by imported paper hinges and paste. They then are stored flat in the oversized, acid-free boxes in a barred corner of the Academy's library.

photo by Academy of Natural Sciences, Philadelphia

Peck explains the manner in which the Fuertes works are mounted and stored to Representative John Brademas (D.-Indiana). A $10,000 grant from the Institute of Museum Services of the Department of Health and Human Services has aided the restoration project at the Philadelphia Academy of Natural Sciences. Brademas sponsored legislation to create the institute.

Question:

What's gray and powdery and plentiful and made up of the following elements?

Silicon	**43%**
Iron	**24%**
Calcium	**21%**
Potassium	**7.2%**
Titanium	**1.5%**
Strontium	**1.1%**
Beryllium	**.036%**
Yttrium	**.05%**
Sulfur	**.48%**
Zirconium	**.43%**
Magnesium	**.43%**
Chlorine	**.18%**
Molybdenum	**.15%**
Nickel	**.0052%**
Chromium	**.01%**
Copper	**.055%**
Zinc	**.072%**
Gallium	**.013%**
Arsenic	**.007%**
Rubidium	**.0057%**

Mt. St. Helens ash, according to the Washington State Department of Agriculture taken from a sample in the Yakima Valley.

For those of you in the Pacific Northwest who can't wait to get rid of the stuff, you might start with a copy of the Office of Biological Service's new report, *Volcanic Ash Problems and Concerns for Fish and Wildlife*. The just-completed manual gives recommendations for handling waste of this type with the least impacts on area wildlife.

Copies are available from the Biological Services Program in the Region 1 office in Portland, Oregon.

Spawn, a 32-year veteran of the Philosophical Society, was trained in his craft at the Smithsonian Institution. Insofar as his work restoring the Fish and Wildlife Service's paintings, it is a small job compared to other assignments he has had. When Independence Hall's famed "Popple Map" depicting the British colonies of 1733 needed restoration for the Bicentennial, Spawn spent a year-and-a-half removing it from its original homespun.

Academy's Interest

"The Academy has been involved with natural history art more than any institution of its type," says Bob Peck, special assistant to its president, Thomas Peter Bennett. Peck, one-time technical director of the Interior Department's Bartram Trail Study, went on to cite numerous examples from the Academy's past of involvement in the art world, amid which the Fish and Wildlife Service's collection is now taking its place.

photo by David Klinger

Peck compares a restored example of Fuertes' work with one about to undergo the salvaging process.

Copper plates of the works of Alexander Wilson, the "father of American ornithology," reside here. So do Conrad Gesner's *Historiae animalium* (1551-1558) and Linnaeus' *Systema Naturae* (1735).

John James Audubon was a member of the Academy, and one of his famed "Elephant Folios" is stored here, as are 40 of the 41 books of artwork by John Gould, known as "England's Audubon."

"We pointed out to the Fish and Wildlife Service (at the time its wildlife art was transferred) that the Academy was an ideal place for them," says Bennett. "We have a lot of Audubon sketches and a humanistic interest in trying to relate natural history to the arts."

—David Klinger
Office of Current Information

PROGRAM BRIEFS

Research

Kangaroo study. Assistant Secretary Robert Herbst announced in May that the U.S. ban on kangaroos may be lifted for a 2-year trial period, to be reimposed at any time if problems occur.

In 1974, the U.S. Government classified the red, eastern gray, and western gray species of kangaroo as threatened and banned the import of kangaroos or kangaroo products. As part of a review of this classification, the Australian Government requested a population biologist from the United States to gather information on kangaroo management.

Dr. David Anderson, leader of the Utah Cooperative Wildlife Research Unit, went to Australia in March to evaluate the status of kangaroo populations. Anderson, recognized for his extensive research on the censusing of mammalian populations, concluded from his study that the kangaroo populations in Australia are abundant and that their habitat is both extensive and secure.

Co-op award. Dr. Maurice Hornocker, leader of the Idaho Cooperative Wildlife Research Unit, has been awarded a 1980 American Motors Conservation Award for his contributions to natural resource conservation through his work at the University of Idaho.

Hornocker has been widely recognized for his studies of mountain lions in the wilderness areas of Idaho. In the mid-1960's, he advanced the technology of radio telemetry in his research on mountain lions, illustrating the unique social and behavioral mechanisms limiting lion populations in relation to their prey and the area in which they live.

New president. Dr. Theodore A. Bookout, leader of the Ohio Cooperative Wildlife Research Unit, was installed as president of The Wildlife Society during the past North American Wildlife and Natural Resources Conference in Miami Beach. He is the first president elected for a 2-year term. He previously served as president-elect, vice president, and editor of the *Journal of Wildlife Management.*

Tokyo award. Research histologist Dr. William T. Yasutake, an internationally-recognized scientist on the staff of the National Fisheries Research Center in Seattle, has become the first Service employee to receive a special "Ronbun hakase" degree from the University of Tokyo. This unusual Japanese degree, similar to but more comprehensive than an honorary Ph.D. offered by universities in the United States, calls for a candidate to write a dissertation covering his lifetime research, be proficient in two foreign languages, and pass oral exams.

Yasutake joined the Service in 1952 at the old Western Fish Nutrition Laboratory and is considered a pioneer in the field of fish histopathology.

Wildlife Resources

Taxidermists busted. Fish and Wildlife Service special agents stunned Midwest taxidermists in late May when they served four arrest warrants and 34 search warrants on 30 people suspected of large-scale commercialization of migratory birds in Indiana, Illinois, and Wisconsin. Officials said the multi-State crackdown would help stop this major drain on wildlife resources.

Upon serving their search warrants, agents seized almost 800 migratory birds, five polar bear hides, four guns, a large amount of records, files, and receipts, and two pieces of machinery—a meat grinder and a band saw used for butchering and grinding deer meat.

Agents conducted over 100 undercover investigations in the tri-State area during the past year and purchased as evidence 133 hawks, owls, and other game and non-game migratory birds that were illegally offered for sale during the course of the covert operations.

Eagle updates. Personnel in the Animal Damage Control program have been engaged in relocating depredating eagles in south-central and west Texas since last October. Through July 1980, 106 bald and golden eagles have been trapped and released in Texas. Though the project has since been concluded, ADC crews are still monitoring 10 eagles by radio telemetry.

Golden eagles were transported and released near Corpus Christi after being banded; bald eagles were released about 50 miles from their capture sites. No eagles have been reported to have returned to the areas where they were trapped.

In west Texas, six golden eagles were released with transmitters at Muleshoe National Wildlife Refuge. One of the relocated eagles was captured by using a stuffed decoy eagle instead of a live tethered decoy bird.

This type of assistance is provided to ranchers upon request to ADC personnel in cases where livestock losses can be documented by field surveys. The troublesome eagles are most often captured with padded leghold traps with tethered eagles as lures.

Goose seminar. One of the most efficient trapping and banding operations for Canada geese was demonstrated at Swan Lake National Wildlife Refuge early this spring when 35 area university students and staff from four refuges gathered for a seminar on the subject.

Presented in cooperation with the Missouri Department of Conservation, the seminar included personnel from Kirwin, Squaw Creek, DeSoto, and Flint Hills refuges.

Swan Lake now processes about 10 percent of all Canada geese trapped and banded in the Nation. Unique assembly-line techniques have been developed over more than 30 years that enable a team of five people to age, sex, and band over 600 geese a day.

Distinguished alumna. Meredith College in North Carolina has honored Roxie C. Laybourne of the Service's Division of Law Enforcement as a distinguished alumna. She is internationally known as an authority on the identification of bird feathers. Her ability to provide positive identification of bird species from minute remains has proved instrumental in resolving major cases for the Fish and Wildlife Service, as well as the Customs Service, the Federal Aviation Administration, the F.B.I., the Air Force, and commercial airlines. Now a Smithsonian research associate, Laybourne is involved in projects to analyze the difference in morphology of red-winged blackbirds in various geographic locations, to teach students techniques in specimen preparation, and to identify birds from fragmentary remains from aircraft strikes.

Fishery Resources

New hatchery/new manager. Ed Peterson has been selected as the manager of the new Iron River National Fish Hatchery in Wisconsin. At capacity, the hatchery is scheduled to have an annual production of 3.5 million lake trout and 14 million eggs to support the fishery program of the Great Lakes.

Atlantic salmon. The total count of Atlantic salmon returning to the Connecticut River was 127 as of June 1. Of these, 103 survived. Indications are that this will be the largest Atlantic salmon return to the Connecticut in recent years.

Gulf Coast bass. The first known collection and spawning of the Gulf Coast strain of striped bass under hatchery conditions recently took place at the Welaka National Fish Hatchery in Florida. Fishery biologists from the Service took mature broodstock from the Apalachicola River using electrofishing techniques and transported the fish to the hatchery for spawning. Natchitoches National Fish Hatchery in Louisiana also assisted in raising some of the fry of the 400,000 total that was obtained during this successful attempt.

Environment

Wildlife lines. Electric power transmission line rights-of-way—slashes of wasteland meandering across the countryside or beneficial habitat for wildlife? They can be either, depending upon how wisely these high-voltage corridors are managed, according to the National Power Plant Team's new report on the subject.

The team's new technical manual is designed to promote beneficial land management for wildlife by utilities that control over 5 million acres beneath 300,000 miles of transmission lines. That acreage is expected to double or triple in the next 30 years as national energy development accelerates.

1979 National Photo Contest
2nd Honorable Mention—Work of the Service (Color)

"Plane Dropping Fire Retardant" by Richard Walker (Region 6)

MONTEZUMA: Adapting to Changing Needs

Public Use, Public Involvement Seen as Key Ingredients

Montezuma National Wildlife Refuge shows many of the signs of becoming one of the next Fish and Wildlife Service properties to slowly pass from rural to urban.

Geographically sandwiched in between the urban centers of Rochester and Syracuse—New York State's third and fourth largest cities, respectively—Montezuma National Wildlife Refuge is beginning to feel the pinch, the urban inroads into a previously rural setting that are increasingly influencing the way this 6,500-acre refuge is managed.

Situated at the northern tip of Cayuga Lake in the middle of the Empire State's famed Finger Lakes region, Montezuma has been bisected since the 1950's by the Thomas E. Dewey Thruway. The New York State and Seneca barge canals form its borders to the north and east.

Down the road, Syracuse's suburban sister city of Auburn is steadily encroaching. The "Finger Lakes Mall"—surely a harbinger of things to come—has sprouted on a major traffic artery that winds through the refuge several miles away.

The world around it is exercising an intrinsic pull on this parcel of real estate, and subtly altering the way the community views Montezuma and Montezuma views itself. As such, this refuge affords a unique opportunity to view refuge management in a state of flux, as it conforms and adapts to the demands an evolving society places upon it.

Changing Problems

If Montezuma's personnel have a philosophy that guides the way in which they operate their portion of the National Wildlife Refuge System, they probably get it more from Gene Hocutt than anyone else.

A pipe-smoking, salty-tongued, self-described "hillbilly from Tennessee," Hocutt seems more akin in appearance to a junior high shop teacher or long-haul trucker than the educational psychologist he was until coming to the Fish and Wildlife Service 10 years ago. He's been refuge manager at Montezuma for the past 3 years—time enough to discard some of the traditional roles he has never enjoyed playing as a refuge manager in favor of some of the more unconventional ways of doing business he says the future is going to force upon the Refuge System.

"We are in a rural setting, but we are truly reaching a point where we are becoming an urban refuge," Hocutt says. "Any problem we're now dealing with on a refuge, or on any property, comes back to people. And if you can't deal with people, maybe you can't manage natural resources in twentieth century America.

photo by David Klinger

Montezuma manager Gene Hocutt—pipe with a bite.

"What the hell else can we as humans do for wildlife but provide the political and economic support for their maintenance? Gee, somebody tells me they were a refuge manager someplace in Oklahoma in 1965 and says they know what's going on out here today—they *don't* know. *They don't know*. Anyone who hasn't been a refuge manager or a project leader in the last 5 years doesn't know what's going on at all!"

Equipped with that outlook, Hocutt and his youthful staff have tackled one urban problem and are embroiled in a second that have thrust them directly into the political arena, as traditional aspects of refuge management have occasionally had to take a back seat to endeavors with names as new as "interagency coordination" and "public involvement."

The first brushfire was a proposed Cayuga County airport, promoted by the Chamber of Commerce and other local interests as a boon to local business and private industry. Situated 3 miles southeast of Montezuma Refuge, the airport's flight path would have been directly over Fish and Wildlife Service property. By 1990, airport proponents were envisioning 100 corporate flights a day.

Injecting the specter of bird strikes from the 140,000 Canada geese that crowd the refuge in April and the 150,000 ducks that do likewise in October, Hocutt was able to convince the Federal Aviation Administration that a potential problem was brewing.

The airport never got its funding.

Chemical Threat

Call it fallout from Buffalo's Love Canal, but a growing concern over chemical pollution and its threat to human health is sweeping western and central New York like wildfire.

The issue has now made it to the doorstep of Montezuma in the form of the Tantalo landfill, a 200-acre dump hard by nearby Black Brook. Its owners are looking to add another 105 acres for the disposal of industrial wastes from Rochester and surrounding areas and are currently seeking the necessary State permits.

One of the major landfills in central New York, this dumping ground has been open since 1958, and is known to contain a variety of heavy metals, among them lead, chromium, mercury, and cadmium, along with a number of pesticides. The landfill is located on a floodplain in an area where the surface water and groundwater come very close to intersecting.

"It's in the record," says Hocutt of the toxic wastes he fears may wind up coming down Black Brook and trapping in Montezuma's marshes. "We're not so much concerned about the expansion permit as what is *already* in there."

His concern is compounded by the potential effects any contamination of

photos by David Klinger

Manager trainee Tony Leger and New York State Auduboners (left) study the path by which the Tantalo landfill permit application is proceding within local, State, and Federal frameworks. Montezuma assistant refuge manager Bill Hegge (right) constructed this 8-foot-long flow chart to depict the points at which private citizens can become involved in the permitting process—something the Federal refuge employees had to learn the same as ordinary citizens.

the refuge might have on Montezuma's bald eagle restoration project, situated on a hillside directly above the point at which Black Brook becomes Montezuma marshland. Since 1976, the refuge and the New York State Department of Environmental Conservation have sponsored the eagle reintroduction program, patterned after the innovative "hacking" techniques developed for the peregrine falcon by Cornell University.

Public Called In

Montezuma was the site of an innovative experiment in public involvement in mid-June as the host of a toxic wastes workshop for area Audubon members. By coincidence it occurred at the same time as the Tantalo landfill controversy was flaring.

The workshop was held under a $1,000 grant from the Environmental Protection Agency to local Audubon societies to generate public interest in the toxic wastes issue, a concern that current events in New York have already done much to spark. "EPA has been looking for ways to get more citizen involvement in these types of issues," said Dick Roberts, sanctuary chairman with the Onondaga Audubon Society, who works as an analytical chemist for G.E. "This is the first project of its type, and one of two areas in New York where it's going on. Gene Hocutt and his staff have turned this into a very good educational experience for us."

Time-consuming

By his own admission, the Tantalo controversy and the byzantine permit application process through which it is currently moving has forced his traditional refuge duties to the back burner, Hocutt says. "We've almost had to forget running a refuge for the past 6 months. People have asked why we in the Service are involved in this issue. We're the big losers if something goes wrong. We could even lose the values for which this refuge is established."

URBAN REFUGES: MANAGEMENT ON A FIRING LINE

During 4 weeks of hearings—now adjourned awaiting the results of hydrologic tests—the Montezuma staff was burning the midnight oil, frequently preparing testimony only hours before the sessions would resume. "Seems like we've been involved in this issue for all of my life," Hocutt mused on a Saturday evening in his office. "I hope I never have to go through this type of situation again." Montezuma has been backed up by ECE specialist Arnold Julin, who is supervising toxic residue analysis, and Patuxent, as well as the Cortland Ecological Services office, which is now tracking the permit application process.

Possible Model

"The very sort of thing that went on here today should be going on in all 410 refuges in the system, and that sort of involvement would materially benefit the refuge system, as well as the situation for Ecological Services, Law Enforcement, and all the others," Hocutt said after the EPA-sponsored workshop broke up. "If we would just *do* it. We've got the most saleable product in the world and we don't seem to want to sell it, and I don't mean in terms of selling snake oil."

Hocutt carries his message to the Refuge Academy in Beckley, West Virginia, each year, where he attempts to impress upon each new crop of young refuge managers the importance of public involvement in their future duties. In doing so, he walks a double-edged sword, facing criticism from those who view a refuge manager's job in a more traditional light, as well as those who fear the sting of the occasional public backlash that they've fostered.

"Sure you're going to get burned if you're going to get involved with the public. If you're effective and you get involved, sure you're going to get your ass kicked once in a while. Hell, that's part of the game! If you don't, you've become a true bureaucrat.

"I've got a terrible problem with the thinking that the world begins and ends at "Blue Goose" signs," Hocutt says. "And if I'm going to hang because of it, I'm enough of a pragmatist to want to have some say over what type of rope is used and how high the tree is."

—David Klinger
Office of Current Information
Related story p. 10

photo by David Klinger

Montezuma's Tschache Pool, where eagle reintroduction projects have been going on since 1976, could become the settling basin for chemical wastes from upstream. Fifteen eagles have been released since that time; two of them have paired and are actively nesting in the Adirondacks this summer. Tschache Pool is also the site of the first successful osprey nest in western New York in nearly 100 years.

Down the Road from Love Canal

"It's quite a problem staying on top of the hazardous wastes issue in New York," says Chuck Johncox, of the State's Department of Environmental Conservation in Avon. "My opinion changes from day to day as to whether New York is at the head, or at the tail, of the dog."

Johncox, a wildlife biologist who is wearing the hat of sanitary engineer for the Empire State, and others like him are involved in one of the most supercharged environmental issues to hit New York in many years.

"It's virtually impossible to get a permit for a landfill for municipal waste (in this State), because people are figuring that toxic waste will go in there," he says. "Every new landfill is a potential Love Canal in people's minds. People are obsessed with comparing every landfill, every issue, with Love Canal."

More than 520 landfills in 50 of New York's 67 countries have been identified by Johncox's agency as containing hazardous substances, nearly half of them in the "Niagara Frontier" area near Buffalo. Into them go much of the 1.2 million tons of hazardous wastes generated each year in New York.

"New sites are continually being added every day. I can think of about 20 new sites we've turned up in the first 6 months of this year. In a sense, Love Canal has made it a lot easier on us because people are coming to us almost everyday with information on new sites," said Johncox, during a break at Montezuma National Wildlife Refuge, where he had come to explain a pending application from the Tantalo landfill to area Audubon leaders.

New York gets a substantial amount of hauled-in wastes from other States, much of it travelling down the busy New York State Thruway. "We have a very active spill response team that seems to be on the go 24 hours a day," Johncox says.

—David Klinger
Office of Current Information

Policy

cont. from p. 1

management of resources. However, such a policy would be complemented by more explicit policies developed by Federal agencies for their own management activities.

For example, the U.S. Department of Agriculture has already undertaken the task of drafting a policy for its activities affecting fish and wildlife. It is anticipated that as the National policy matures, more agencies will develop internal policies reflecting the guidance of a strong national policy.

The Department of the Interior plans to develop the policy by addressing one major issue at a time, producing a draft section for consultation and public review on each issue. Eventually, a series of sections will be completed which will comprise the body of the policy.

"Reaching the goal of a *national*, not a *Federal*, policy to which all interested parties can contribute depends on the cooperation of Federal and State officials, as well as conservation advocates," Assistant Secretary of the Interior Robert Herbst says. "The spirit of mutual cooperation and shared expertise is essential to develop realistic fish and wildlife management programs."

—Joy Davis
Office of Current Information

Updated Worldwide Endangered List Compiled

U.S. World List of Endangered and Threatened Animals and Plants as of May 1, 1980

Category:	Number of Endangered Species:			Number of Threatened Species:		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Mammals	35	251	286	3	21	24
Birds	67	145	212	3		3
Reptiles	12	55	67	10		10
Amphibians	5	9	14	2		2
Fishes	31	11	42	12		12
Snails	2	1	3	5		5
Clams	23	2	25			
Crustaceans	1		1			
Insects	6		6	3		3
Plants	49		49	7	2	9
Total	231	474	705	45	23	68

The official U.S. list of worldwide endangered and threatened wildlife and plants now carries 773 species, 276 of which are native to the United States.

"That's up 77 from last year," says Dr. Paul Opler of the Service's Endangered Species Office, referring to the previous list published in January 1979. "But that increase has more to do with improved research than the continuing, general deterioration of the world's wildlife environment. We're simply finding more plants and animals that need to be classified."

The additions made to the list of endangered and threatened species in the last year-and-a-half come from every part of the Earth. Two of them—the Guatemalan fir and the Chilean false larch—are the first foreign plants ever to be listed. Other species include the Caribbean monk seal, West African manatee, North China Sika deer, and the Kern (California) primrose sphinx moth. During the last 16 months, 36 plants (mostly cacti), 29 mammals, nine reptiles, four fish, one bird, and two insects were added to the revised list.

Many of these species are important for economic, commercial, and historic reasons. Recently some, such as a number of cacti native to the southwestern U.S., have become extremely popular house and garden plants; others have suffered exploitation and destruction of their habitats for a much longer time.

Since the Endangered Species Act of 1973 was enacted, the U.S. list has almost tripled from 106 to 276.

—Frank Kenney
Office of Current Information

Three Strikes—You're Out?

Maybe Mother Nature is trying to tell Dave Goeke something.

The manager of Columbia National Wildlife Refuge is wondering whether to "call it quits." Three times during the past year he's been caught in the middle of "natural events."

He left Savannah National Wildlife Refuge in December 1979 after mopping up after Hurricane David. Two months after he arrived in central Washington, heavy rains on top of high reservoir releases flooded out most of Columbia's water control facilities and many area roads.

Three months later, Mt. St. Helens spewed one-and-a-half to two inches of fine ash over his refuge.

Dave's staff is hoping he'll go on a long vacation—soon!

—Marge Kolar
Olympia Area Office

An original painting by noted artist Walter A. Weber now hangs in Region 4 Director Ken Black's office in the new Richard B. Russell Federal Building in downtown Atlanta. The painting, entitled "Trumpeter Swans Over the Yellowstone Wilderness," was done in the mid-1930's in memory of George M. Wright, the National Park Service's first chief scientist. In a recent ceremony, Black (left) accepted the painting on behalf of the Fish and Wildlife Service from Joe Brown (right), director of the Park Service's Southeast Region.

READEX FICHE

Hikers at Cape Alava on Olympic National Park's coastal strip pass Tskawahyah Island, a part of the Washington Islands National Wildlife Refuge. A cooperative effort between the Fish and Wildlife Service and the National Park Service is placing wayside interpretive exhibits at key locations in the park to inform coastal visitors about the seabird and marine mammal resources of this refuge.

Fish and Wildlife, Park Service Co-sponsor Coastal Interpretive Sites

On the Heels of "Year of the Coast," a New Washington State Window on Wildlife

Susan M. Saul
Outdoor Recreation Planner
Lower Columbia River
National Wildlife Refuges

Most visitors to the stormy and precipitous Washington coast admire and photograph the picturesque, wave-battered offshore rocks and islands that dot this landscape, but never realize the vital importance of these remnants of a receding coastline to wildlife.

Soon, however, wayside interpretive exhibits planned by the Fish and Wildlife Service and the National Park Service will show coastal visitors that these offshore islands are "more than a pretty picture."

These 870 islands, ranging in size from rocky outcroppings exposed only at low tide to fully vegetated islands supporting stands of stunted conifers, compose the Washington Islands National Wildlife Refuge. The chain of islands extends for more than 100 miles along the coast of Washington, and for 50 of those miles the islands parallel Olympic National Park.

Designated as the Washington Islands Wilderness in 1970, the islands are closed to all public use and access to protect their wildlife from disturbance. Most of the refuge islands lie within a mile of the mainland, and viewing from Olympic Park is the only method by which the public can enjoy this refuge.

A memorandum of agreement signed by Joe Blum, the Service's Olympia, Washington, area manager, and Marc Sagan, director of the Park Service's Harpers Ferry, West Virginia, Center, will soon be giving the public a little better look at this area's wildlife with the planning and construction of six wayside interpretive exhibits.

The exhibits, to be located at key coastal access points in Olympic Park, will interpret the seabird and marine mammal resources of the refuge for park visitors. The new agreement between the two Federal agencies also provides for leaflet dispensers at the four major trailheads on the beach trail that traverses the park's coastline. Backpackers hiking along the coast will soon be able to read refuge brochures at their leisure as they parallel the islands.

The interpretive exhibits will emphasize the critical importance of the islands as a sanctuary for nesting seabirds and as resting sites for marine mammals. Fourteen species of seabirds nest on the islands, while seals and sea lions use the rocks as "haul-out" sites. Sea otters were reintroduced to the islands in 1970 after a 100-year absence. Bald eagles and peregrine falcons also use the islands in the fall and winter.

Olympic National Park receives 300,000 visitors a year on its coastal strip, so the potential audience for these interpretive efforts is significant. Exhibit planning at the Harpers Ferry Center is scheduled for this year, with fabrication of the exhibits also to begin this year and extend into 1981. They will be installed next summer.

Or Maybe, "Work Projects Administration"?

Assistant Project Leader Rollie Krieger of Des Lacs National Wildlife Refuge was nest dragging with his 11-year-old son. Krieger asked his son if he knew what "W.P.A." stood for, since they were dragging on the Wetland Production Area.

His son thought for a second and answered, "Wettest Pond Around?"

We all had a good laugh and told him he was pretty close to being right.

—Steven A. Knode,
Assistant Refuge Manager
Des Lacs National Wildlife Refuge
Kenmare, North Dakota

Look Beyond Motives, Minnich Suggests

Region 6 Director On "Consumptive vs. Appreciative" Dilemma

Don W. Minnich
Regional Director
Region 6, Denver

In his excellent presentation to the thirty-sixth North American Wildlife and Natural Resources Conference, Dr. John Hendee described the concept of a dichotomy between "consumptive" vs. "appreciative" uses of wildlife and wildlands.

The concept now is deeply ingrained in the Interpretation and Recreation Program and in the minds of most Service employees. Dr. Stephen Kellert, in reporting on Service-sponsored research on attitudes toward animals, does not use the terms "consumptive" and "nonconsumptive," but the concept clearly pervades his reports.

This has been a useful concept, but I fear we have begun to use these labels more literally than Dr. Hendee intended. Now, after 10 years, we need to take a closer look at the impact of this division.

Appreciative uses, Hendee advises us, include primitive camping, hiking, photography, nature study and interpretation, vicarious enjoyment of the resource through the media, and scientific research. Consumptive uses include hunting and fishing. In Dr. Hendee's and others' presentations, we have seen the word "appreciative" associated with other words such as purist, preservation, educated, professional, wealthy, elite, and urban. The word "consumptive," however, relates to another set of words, including average, blue collar, rural, male, and utilitarian.

Research into the psychology of hunting refutes the existence of such a polarization. Surveys by Hendee and others clearly show that most hunters have a high appreciation for wildlife and wildlands.

The principles of resource management also refute the existence of a division. Hendee points out that, ". . . whereas wildlife can only be shot once with a gun, it can be shot many times with a camera."

However, we should not consider the impacts of guns or cameras on individual animals. We do not manage for individual animals. We manage for populations. A population of deer can be shot into again and again, year after year, and still produce plenty of animals for photography, nature study, and other uses.

A major problem with the term "consumptive," as used in this concept, is the implication that anything which is consumed is permanently depleted. This is not true in the case of animal populations. It is more often true for habitat.

Wildlife is a product which arises from the basic resource—habitat. How can we say that a deer herd is consumed if it is replaced every year? But, if we convert deer habitat to hiking trails and campgrounds, it is the hikers and campers—in this case the so-called appreciative users—who are the real consumers.

Every so-called appreciative use can be consumptive to some extent, if only by rendering habitat less effective because of human disturbance.

The term "consume" applies well to nonrenewable resources such as fossil fuels. It can be applied to individual elements of a renewable resource such as a single deer or a cup of water. We should *not* attempt to apply the word consume to a stable deer herd, to the hydrologic cycle, or any other renewable system.

Hendee's concept has been a useful one, but, unfortunately, the connotations of the words have tricked some managers into believing that the so-called appreciators are good and the so-called consumers are less good. This viewpoint prejudges that hunters do not appreciate the animals they hunt.

To add to our misfortune, we have used the terms so much that they have been adopted by the lay public. When the lay public adopted the terms, they also adopted all the misconceptions that surrounded them.

Perhaps there was one person who had the wisdom to immediately recognize the threat posed by the

cont. on p. 14

photo by Cherie Rife

Refugee volunteer. *Elaine Griebenow is one of the nine 1980 winners of the prestigious Jefferson Award from the American Institute for Public Service for her volunteer work as a nurse for Cambodian refugees along the Thailand-Kampuchea (Cambodia) border last year. She took a 3-month leave from her job at the University of Minnesota Childrens' Hospital's rehab unit to join the Cambodia Refugee Medical Team. She is the wife of George Griebenow, coordinator of the Great Lakes assessment program in the Fish and Wildlife Service's Region 3 office. The Jefferson Award was established in 1973 to honor special achievement in public service. Flanked by her husband, Mrs. Griebenow shows her award to fellow Minnesotan Robert Herbst (left), assistant secretary for fish and wildlife and parks.*

Three New Waterfowl Refuges Established in Mid-South

Mallards, wood ducks, and other migratory waterfowl will find the South more hospitable this fall with the establishment of three new National Wildlife Refuges in the birds' diminishing bottomland forest habitat in Mississippi, Tennessee, and Arkansas.

The $7.3 million in funding for the three initial tracts, which total 8,372 acres, was authorized May 20 by the Migratory Bird Conservation Commission.

The refuges—Mathews Brake in central Mississippi, Lower Hatchie in west Tennessee, and Overflow Bottoms in southeast Arkansas—are all part of the lower Mississippi River Delta, which has been steadily drained and cleared for agricultural purposes since the arrival of the pioneers. (See "Bottomland Hardwoods—Mississippi's Gift" in April-May *Fish and Wildlife News*.)

This conversion from forest to cropland is continuing at a rate of approximately 260,000 acres annually, and it is estimated that by 1985 less than 5 of the original 25 million acres will remain of this unique ecosystem and vital habitat. The Service has identified this rapid decline as a top priority problem for action in the 1980's.

Mathews Brake in Mississippi will be established with the purchase of 850 acres. The Service plans to acquire a total of 4,079 acres as negotiations with landowners proceed and money becomes available. Mathews Brake is an important wintering area for mallards and includes exceptional nesting habitat for wood ducks. Peak wintering populations there often exceed 30,000 waterfowl.

In Tennessee, Lower Hatchie will encompass the lower 17 miles of the Hatchie River, the last remaining unchannelized river in the western part of the State. Land surrounding the refuge area has been converted from timber production to soybean fields, an increasingly common practice in the region. The refuge area now supports 20-30,000 birds, primarily mallards and wood ducks. The Service will purchase 1,095 acres and will negotiate in future years for an eventual total of 6,400 acres.

Overflow Bottoms in southeast Arkansas near the Louisiana border is subject to the same agricultural pressures as the rest of the Delta. Under Service management, the area should have an annual wintering population of some 20,000 waterfowl. The initial 6,427-acre tract will be purchased at cost from the Nature Conservancy, a nonprofit land conservation group which often purchases outstanding natural areas to hold for government agencies, thus assuring the protection of such areas. The Service plans a total refuge area of 10,690 acres.

—Joy Davis
Office of Current Information

Minnich

cont. from p. 13

suggestion of this dichotomy. Dr. Gustav Swanson, at the same North American Conference, said, "One thing that troubles me is the tendency to pit the two groups against each other. It might be more constructive to stress the compatibility and need for cooperation among all interested groups. We all know that the shooters, by their preservation of refuge areas, have made an important contribution to waterfowl conservation. It seems to me that we need the cooperation of all interested groups."

Surely the two groups were pitted against each other long before they were given labels at this conference, but the labels have helped solidify the opposing views, including the misconceptions.

The Fish and Wildlife Service's mission is to provide wildlife benefits to people. We should provide benefits to *all* who seek them without passing judgment on their motives.

1979 National Photo Contest

3rd Honorable Mention—Public Use (Color)

"Backpacking in Paria Canyon, Utah" by Randy McNatt (Region 2)

Whooper Views Financed by Nation's Schoolkids

New Tower a Nickel-and-Dime Operation

Ollie Edstrom
Division of Ecological Services
Washington, D.C.

A recent article in the National Wildlife Federation's *Ranger Rick* Magazine has prompted hundreds of letters and donations from schoolchildren across the country to the Platte River whooping crane critical habitat maintenance trust.

The article explained to its young readers the importance not only of critical habitat for the whooping cranes, but also its significance to migrating waterfowl along the Platte River.

More than $450 in nickels and dimes contributed by youngsters across the Nation will be used to construct a viewing tower on the river's Morman Island. The property was purchased with a $7.5 million trust that was created last year as part of the out-of-court settlement of a lawsuit on the effects of the Grayrocks Dam on habitat for the endangered whooping crane, sandhill cranes, and other migratory birds.

The tower will be dedicated to the children of America, according to Richard Spelts, Jr., of the First National Bank in Grand Island, Nebraska. Spelts' bank maintains the whooping crane trust fund. "To these little children, this is very meaningful, and to me it says something that all the kids in America have good thoughts and believe in good things."

Spelts has received more than 500 letters urging that habitat for the whoopers along the Platte be saved, in addition to the donations.

One letter had 23 pennies in it and cost 87 cents to mail. Denise, 6, from Maine, wrote, "Please use my allowance this week to buy land to help the whooping cranes."

Another youngster wrote, "I only have 17 cents and the stamp was 15 cents." The letter had two pennies in it.

Sascha, 7, from Pacific Palisades, California, wrote, "I want to buy land so people won't use up the water. I want the birds to have a place to swim and drink from and live."

Leslie, 7, from Texas, sent $1. "I'm so, so sorry I couldn't send more money but I have my hamster, Snowball, to take care of."

photo by W. F. Kubichek

Matt in Manitoba Mulls Marshlands

Dear Sir:

My name is Matt. I am 4 years old. My sister's name is Allison. She is almost 3. (She's 2 now.)

We read in the Ranger Rick *book about the Platte River. We're worried about the birds getting hurt. I want to help save the land and water for the birds. Please help us Rangers work all day long on this saving bird project.*

Thank you for reading this letter.

—Matt and Allison
Morris, Manitoba

Selections from the Fish and Wildlife Service's reply:

Dear Matt and Allison:

Your thoughtful letter to the Secretary of the Interior about bird problems on the Platte River has been passed on to me for reply. I hope my comments help you and other Rangers to fully participate in the vital business of preserving a quality environment. And perhaps I can bring the Platte River problem a little closer to your home, so you can better understand man's struggle with his environment.

The Platte River issue stems from further development and use of natural resources for the benefit of people. In this regard, it is very much like the development which took place where you live a long time ago. In the late 1800's and around the turn of the century, about the time your grandparents were struggling to wrest a living from lands south and west of what is now Winnipeg, the entire Red River Valley was a series of vast marshes; magnificent marshes extending as far as you could see.

Try to imagine driving from Morris to Plum Coulee, not through the endless grain fields you see today, but through an endless chain of marshes, where millions of ducks, geese, cranes, shorebirds, and other animals lived and reproduced in summer.

The wealth of the soil brought great benefits to Manitobans. Food, shelter, clothing, education, leisure time to hunt and fish and play, ability to travel, culture, and many other benefits we all take for granted today came from the rich soils, which came from the magnificent Morris marshes and which also come from the Platte River in Nebraska.

So the marshes of Morris and the wetlands of Minnesota and the free-flowing Platte River and a hundred other natural things we still hold dear have been sacrificed so we can have a good life. It is right that this happen, that we have the comfort and leisure to develop a higher intelligence and culture, to write poems and enjoy life; but it is only right up to a point.

Ah, therein lies the rub! How many marshes should we drain, how many rivers should we dry up, how many birds should we destroy in our quest for an even higher standard of living?

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Madsen's Idea Provides Incentive to Minnesota Wetland Owners

George Sura
Public Affairs Officer
Region 3, Twin Cities

The Minnesota Waterfowl Association recognized Sevice biologist Carl Madsen this spring for his "simple but beautiful idea" that ultimately flowed into the State legislative process and became law.

Madsen, 42, project leader for the mid-continent waterfowl project in Fergus Falls, conceived the idea of a property tax credit as an incentive for Minnesota landowners to preserve wetlands.

Madsen discussed his far-reaching thoughts with State Senator Collin Peterson who served as the principal author of tax credit legislation that evolved from the biologist's idea. The State Legislature enacted the measure in 1979 with the blessing of the Minnesota Department of Natural Resources.

In the main, the law is a commendable provision that eliminates property tax on privately owned wetlands in Minnesota. The law also allows landowners to receive a credit towards property tax for every acre of wetland which they agree to maintain on their property.

To qualify for credit, a landowner simply agrees not to drain his wetlands for a 1-year period. The agreement is automatically renewable but may be cancelled at any time by the landowner.

The rate of payment for credit is three-quarters of one percent of the average level of estimated market value of an acre of tillable land in the township. The wetlands credit program is administered by county officials and each county is reimbursed by Minnesota's general fund.

Harvey Nelson, the Service's regional director in Minneapolis, said Madsen's idea reflects the intuitive genius of a dedicated waterfowl biologist. "It's a good stroke of conservation business," he added.

Erie Earthkeeper Extends Education

Janet Marvin
Refuge Clerk
Erie National Wildlife Refuge
Guys Mills, Pennsylvania

Ken Bender is a year-round earthkeeper.

As an environmental education specialist with the Youth Conservation Corps program at Erie National Wildlife Refuge, Bender aids enrollees in understanding the natural world as they work in behalf of the Fish and Wildlife Service.

As a teacher at the Maplewood Middle School in Guys Mills, Pennsylvania, Bender does the same for his students—most recently 93 sixth-graders during Earth Week activities in the area.

His 93 charges spent much of their time during the April Earth Week observance pruning apple trees to increase fruit production; trimming pine trees, bushes, and hedges; and planting trees and flowers to enhance the beauty of their shcool property. They also distributed seed tapes to community residents in an effort to encourage their neighbors to become "earthkeepers."

Bender plans to orient this year's YCC environmental education program at Erie around an understanding of the life cycles and needs of migratory waterfowl, as they are incorporated into the overall work and goals of the refuge. "All enrollees are having an opportunity to work at earthkeeping projects and learn the value of each project they are involved in," Bender says.

Marshlands *cont. from p. 15*

That question is a difficult one and that's the real question being asked by Ranger Rick.

Your parents and I, and others of our generation have made the marsh and river decisions for you, in our time. You will have to make those decisions for your children, in your time. So, it is important that you learn much about life, about the needs of people and about wildlife and the natural environment.

But most of all, work very hard in school, because you will have to be very wise when you grow up to make the right decisions about things like the Morris marshes and the Platte River. I know you will make the right decisions; I only pray that we have.

—Robert B. Oetting, Wildlife Biologist
Office of Migratory Bird Management
Washington, D.C.

Public Affairs Writers Honored by Society

Public information specialists Frank Kenney and Megan Durham of the Office of Current Information were honored for two of their topnotch press releases by the National Association of Government Communicators in June.

In the group's "Blue Pencil" awards ceremony in Washington, D.C., Kenney won first place in the news release category for "The Long, Thin Track of the Whooping Crane," an account of the migration of the cranes between Aransas National Wildlife Refuge and Canada's Wood Buffalo National Park.

Durham won second place in the same category for her press release, "Scientists' Visit Marks Major Step in Egyptian Wildlife Conservation," which discussed the visit of several Egyptian biologists to field installations of the Fish and Wildlife Service last fall.

The organization is made up of public information employees from Federal, State, and municipal governments. It sponsors the awards ceremony each year to recognize outstanding writing in government publications.

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AUGUST-SEPTEMBER 1980

1980 National Photo Contest

Best In Show (Black and White)

1st Place—General (Black and White)

"The Late Hunt" by Dean Biggins (Region 6)

Employees Awarded in Photo Contest

Regions 2, 5, and Washington Score Big in Judging

"Good show!"

Those were the words of several of the judges who selected the top winners in the Fish and Wildlife Service's 1980 National Photo Contest in late July.

"By and large, the Service's photos were very well done, and it was a real privilege to serve as a judge," said Jerry Bishop, managing editor of the National Wildlife Federation's *Ranger Rick* Magazine.

Regions 2 and 5 and the Washington Office were this year's big winners, with 12, nine, and seven top finalists at the conclusion of the judging, respectively.

Dean Biggins of Region 6, a wildlife biologist in Wyoming, took "Best in Show" in the black-and-white print judging for his evocative scene, "The Late Hunt". Biggins has been a frequent top contender in past photo contests. Ron Singer of Washington, a biologist in the Wildlife Permit Office, impressed the judges with his color portrait "Hangliders" and won "Best in Show" in that half of the contest.

Culminates in Washington

Each year the public affairs offices in all of the Fish and Wildlife Service's regional offices and the Alaska Area Office conduct preliminary contests to spotlight photographic talent from among the agency's employees. Top winners in the two categories—black and white prints and color slides—

cont. on p. 4

Area Office Boundaries Shift

Geographic bounuaries of several Area Offices were changed on October 1, following an extensive review of the Fish and Wildlife Service's field office structure and resource management and responsibilities.

The changes will not involve additional personnel or funds, or the opening, closing, or relocating of any Area Offices. They are being made to consolidate responsibilities and to improve coordination with other Federal and State agencies.

The realignment will change two regional boundaries in the Midwest. The Kansas City Area Office will be transferred from the authority of Region 6 in Denver to Region 3 in Twin Cities. Under this change, the Kansas City office will be responsible for activities in Missouri, Illinois, and Iowa. These changes will consolidate primary management activities for the Mississippi Flyway under one regional office. The responsibility for activities in Kansas will be transferred to the supervision of the Pierre Area Office.

The agency's West Virginia activities, formerly under the Harrisburg Area Office will be managed by the Annapolis Area Office, which is already responsible for activities in

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On the Inside . . .

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Eerie stillness . . . . p. 3
Aleuts remember . . . . p. 6
No manna from heaven . . . . p. 8
Viewpoint: hunters . . . . p. 12

I 49. 88:

Raptor Mortalities From Power Lines Studied

Vi Solt
Asst. PAO, Denver

In parts of the Rocky Mountain West today, golden eagles and other birds of prey soar and drift with prevailing wind currents, swoop upon unsuspecting jack rabbits, and perch on tree snags to rest, roost, nest, or scout for the next jack rabbit.

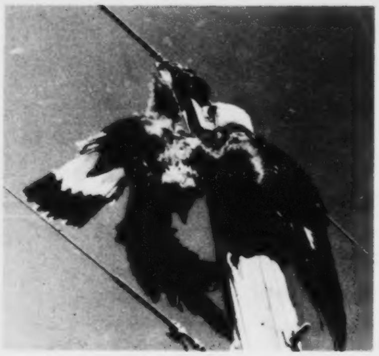
In flat areas which offer few, if any, natural elevated perch sites, the birds use power poles—at times to their detriment.

Between July 1979 and March 1980—less than a year—a team from the Service's Salt Lake City Area Office collected the remains of over 500 eagles and 75 other raptors from sites under power poles in a remote Utah area.

Number Surprising

The high number surprised Area Manager Bob Shields, who is used to reports of high eagle mortalities from natural causes.

Western eagle country is harsh and selective. It is changing, as exploration for and extraction of energy-producing resources gain momentum. What these changes will mean eventually for birds of prey populations, no one is sure.



"Electrocuted Golden Eagle"—a 1979 Fish and Wildlife Service national photo contest winner by Peter Carboni, Region 2.

Shields does believe strongly that these raptor electrocutions can, and should, be prevented. Most utility companies share his view and presently construct power lines with poles designed to act as an enhancement to raptor habitat. Or they modify existing lines to make the poles safe for perching birds with wide wingspans.

Still, however, in some of the more remote areas of Colorado and Utah, modifications to old lines must wait, while the poles take their toll. In the past year, Shields and other Salt Lake City personnel have made the public aware of these preventable losses.

Seminar Held

At a special seminar hosted recently by the Service and Utah Power and Light Company, several speakers delivered this message to more than 50 representatives of Federal and State conservation agencies, private conservation organizations, and public utility companies.

From Boise, Idaho, internationally-acclaimed raptor expert Morlan "Morley" Nelson brought his trained golden eagle "Gwen" and a recently-completed film, "Golden Wings and Silver Lines." Perched on an old-style power pole, "Gwen" spread her wings to demonstrate how easily the tips make contact with the two live wires on the pole's crossarm.

Immature eagles, Morley said, are victimized by their clumsiness, often not living long enough to gain the grace needed for landing and taking off from such poles without harm. Of course, the most graceful bird, with feathers wet from rain or snow, is vulnerable. Water being an excellent conductor of electricity, the voltage generated when a wet bird makes contact with two live wires, or a live wire and a ground, is instantly lethal. Some parts of the raptor carcasses collected in Utah were burned beyond recognition.

Special Designs

Nelson's film illustrated one of the safe power pole configurations explained by Service raptor biologist Ron Joseph of the Area Office's endangered species team. Installation of an inverted "V" structure between the closest insulators on a three-phase pole forces birds to land on the other side of the crossarm, where contact with two live wires is impossible. Service special agent Lucinda Schroeder also made the point that power poles constructed with the safety of birds in mind become valuable perching, roosting, and nesting sites in open habitat where prey is abundant.

Julie Hoggard, an official of Utah Power and Light, said his company has used the inverted "V" structure as an economical and effective means of modifying power poles to accommodate birds of prey. He said the

cont. on p. 16

"Live" wire. *Morlan "Morley" Nelson, raptor expert from Boise, Idaho, demonstrates with his golden eagle "Gwen" how high voltage power poles in the West can become deadly perches for birds of prey. Nelson participated in a recent seminar on high wire bird mortality sponsored by the Service's Salt Lake City Area Office and the Utah Power and Light Company.*

Rugs in Route for Restoration

The Fish and Wildlife Service has transferred its unique collection of 41 handwoven wool Navajo rugs to the Rocky Mountain Regional Conservation Center for restoration and cleaning.

The rugs, woven in the early 1930's and estimated in value at more than $500,000, were acquired by the Service in 1963 when the estate of Philadelphia publisher Moses Annenberg near Beulah, Wyoming, was acquired.

In addition to the rug collection, the estate included a hunting lodge and adjacent buildings, which were built during the 1930's for about $1 million. It was acquired by the Government for approximately $300,000.

Sand Creek begins as a spring on the property, and has provided an excellent source of water for work at the Service's Beulah Lab. The buildings have provided office, residence, and conference space.

Repair work on the lodge has begun, and concern over the safety and preservation of the rug collection has prompted its transfer to the conservation center. The center is affiliated with the University of Denver. Plans to exhibit the collection have not been firmed up.

The rugs were evaluated last year by Interior Department field solicitor Terry Ortega of Albuquerque who is an expert on Indian art. "Several of the rugs have distinctive features which set them apart as one-of-a-kind items," Ortega said.

FISH AND WILDLIFE NEWS

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John Mattoon, Assistant Director—Public Affairs
Alan Levitt, Chief, Current Information
David Klinger, Editor, *Fish and Wildlife News*

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A Refuge Manager's Notebook

Notes on Mt. St. Helens

"On May 18, 1980, at 0830, Mt. St. Helens erupted, issuing steam and volcanic ash. The ash rose to 60,000 feet, formed a dense black cloud, and was carried E-NE by the prevailing winds. As the cloud of ash traveled, it left behind a deposit of material, with larger particles falling out first. Maximum deposition was between Yakima and Ritzville, where up to 7 inches accumulated. The ash cloud drifted on across the U.S., leaving observable quantities of ash as far east as Minnesota.

"The ash cloud blacked out the sun, causing total darkness at Turnbull by 1530, having covered a distance of 233 miles for a rate of spread of 33 miles per hour. Darkness persisted through the remainder of the day, but by the following morning the cloud had passed over. Falling ash resembled a medium-heavy snowstorm on the 18th, but the next day ash fall was light; visibility was poor, however, even though it was a clear day. On the 20th, visibility was improved and might have been mistaken for smog in a large city. For 3 days, the world was gray and silent with all trees and vegetation covered by ash and the sun filtering through a gray sky.

"world. . .gray and silent. . ."

"The darkness that occurred on Day 1 of the eruption caused many animals to behave as though it were evening, with robins singing and frogs chorusing. On Day 2, many birds were behaving normally, such as swallows flying as normal. Many birds, however, were abnormally inactive and spent most of their time perched on branches. Singing activity was very reduced, with only an occasional meadowlark or red-winged blackbird vocalizing. Mostly, there was an eerie stillness.

"Many birds on Day 2 appeared to be in a mild state of shock. Ducks, approached quickly, would swim away but not fly. Very few ducks were seen flying on Day 2. Red-winged blackbirds, robins, black terns, and Brewer's blackbirds were also approached closely. A red crossbill was seen with one eye covered over completely with ash and obviously having a difficult time seeing.

"Many forms of insect life were killed by the ash on a large scale. When flying insects like flies, bees, and lepidoptera were killed, it was easy to see trails in the ash where they had struggled in circles before death. Some insects seemed unaffected, however; spiders were conspicuously abundant crawling over top of the ash, ant hills were active beneath the ash, and mosquitoes were also abundant. Dead aquatic macroinvertebrates were piled 3 inches deep beneath the ash in places.

". . . an eerie stillness . . ."

"On Day 3, several reports of dead birds were received, including one report of dead ducklings. Young birds seemed especially vulnerable, possibly because of their high energy demands. Many juvenile magpies were reported dead. Magpies, which began nesting in March, had fully fledged young by the time of the eruption. Geese broods were about 4 weeks old and seemed relatively unaffected, although a small percentage may have died.

"Nesting was substantially impacted by ash. Many nests were in the laying stage at the time of the eruption. It is theorized that these nests were most affected. Apparently female birds that returned to partially complete clutches covered with ash simply deserted the clutch and/or the nest. Several red-winged blackbird nests were found with clutches of two or three eggs covered over by ash with just the top of the eggs visible. Before rain settled the ash, the entire eggs would have been covered. A redhead nest was found with 13 eggs covered by ash, a new layer of bulrush nesting material placed over the top, and a clutch of eight eggs deposited over the old clutch."

—Donald N. White, Refuge Manager
Jim Rees, Wildlife Biologist
Turnbull National Wildlife Refuge
Cheney, Washington

Photo Contest

cont. from p. 1

then go on to Washington for national judging.

In addition to the walnut and brass plaques and certificates that are awarded to the national winners, this year various-sized enlargements of top entries will be sent to contestants, according to acting Audio-Visual chief Steve Hillebrand.

Some of these outstanding photographs are also awarded the honor of appearing in future editions of the Service's continuing "Wildlife Portrait Series" with credits for the individual employees. "Wildlife Portrait Series No. 5"—the most recent edition—is one of the Federal Government's most popular sales items through the Government Printing Office.

Other top winners will appear in future editions of *Fish and Wildlife News*, other Service publications, and slide-tape presentations, and hang in the Service's Directorate corridor in the Main Interior Building in Washington, D.C. Duplicates of all winning entries also go into the Service's Washington and regional photo files for use in responding to requests from the public and the media in illustrating articles, books, and other publications.

Tips Offered

In addition to their praise for the top photo contest entries, this year the judges offered a number of comments and suggestions to the Service's amateur as well as established photographers.

"The 'Fish and Wildlife' and 'General' categories seem to be real good in the entries they attract," said *Ranger Rick's* Bishop. " 'Work of the Service' and 'Public Use' seem to be much less so."

Competition is always heaviest among color slides. Far fewer black and white prints are entered in both the regional and national contests; in several categories this year on the black and white side, no top awards were given. The "Public Use" category received no awards at all from the judges, who reminded photographers that black and white film offers the shutterbug unique possibilities under certain lighting conditions that color cannot match.

"Think a little bit more before you push that button," said *National Geographic* Magazine staffer Robert F. Sisson, chief of its natural science photography section and another judge for this year's contest. "Stop and think for a second longer to get *that* shot, for it has to tell the *whole* story. 'Storytelling' is what you should aim for, for the snapshots aren't going to win."

In addition to Bishop and Sisson,, the other judges this year were Dick McCabe, publications director for the Wildlife Management Institute; Bob Crozier, vice president of the Graham Group, a Washington, D.C., design company; and Jack Lynn, director of communications for the Nature Conservancy. Luther Goldman, former chief of the Service's photo section, served as an alternate judge.

The Audio-Visual Office is now in the process of duplicating and returning the color slide entries.

This year's winners are:

COLOR SLIDES

Best in Show—Ron Singer (Washington)—*"Hangliders"*

"Fish and Wildlife" Category

1st Place—Gerry Atwell (Region 5)—*"Golden Eagle"*
2nd Place—Bob Stratton (Region 2)—*"Whistling Ducks"*
3rd Place—Gerry Atwell (Region 5)—*"Pickerel Frog on Tree Fungus"*
1st Honorable Mention—Keith Morehouse (Washington)—*"A Lot of Bull(s)"*
2nd Honorable Mention—Keith Morehouse (Washington)—*"Slope Mountain Arctic Fox"*
3rd Honorable Mention—Kirke King (Region 2)—*"Royal Tern and Young"*
4th Honorable Mention—Dave Menke (Region 6)—*"Cedar Waxwing"*
5th Honorable Mention—David Genke (Region 4)—*"Ghost Crab"*
6th Honorable Mention—Arthur Sowls (Region 1)—*"Marbled Godwits"*

"Work of the Service" Category

1st Place—Daniel O'Neal (Region 4)—*"Service Employees Gathering Bison"*
2nd Place—Kirke King (Region 2)—*"Banding Osprey"*
3rd Place—Gerry Atwell (Region 5)—*"Examining Polar Bear Teeth"*
1st Honorable Mention—Robin West (Alaska)—*"Chick 'Talking Back' to Biologist"*
2nd Honorable Mention—Kenneth Stansell (Region 1)—*"Tranquilized Red Wolf"*
3rd Honorable Mention—Gerry Atwell (Region 5)—*"Untangling Black Duck"*

"Public Use" Category

1st Place—Keith Morehouse (Washington)—*"Sheep Camp"*
2nd Place—Gerry Atwell (Region 5)—*"Photographer Photographing Ptarmigan"*
3rd Place—Gerald Ludwig (Region 1)—*"Dad, Take This Fish!"*

photo by David Klinger

Acting Audio-Visual chief Steve Hillebrand (right), coordinator of the Service's national photo contest, displays black and white entries to judges (from left) Dick McCabe, publications director for the Wildlife Management Institute; Jerry Bishop, managing editor of the National Wildlife Federation's Ranger Rick *Magazine; Bob Crozier, vice president of the Graham Group, a Washington, D.C., design company; Jack Lynn, director of communications for the Nature Conservancy; and Robert F. Sisson, chief of natural science photography for* National Geographic *Magazine. Luther Goldman, former Fish and Wildlife Service photo chief, served as an alternate judge.*

1st Honorable Mention—Patrick Hagan (Region 4)—*"The Beauty of the Hunt"*
2nd Honorable Mention—Mike Boylan (Region 3)—*"Kayaking in Okefenokee"*
3rd Honorable Mention—Gerald Roehm (Region 1)—*"Muir Trail"*

"General" Category

1st Place—Ron Singer (Washington)—*"Hangliders"*
2nd Place—Gerald Ludwig (Region 1)—*"Hudson Bay Sunset"*
3rd Place—Bruce Halstead (Region 2)—*"Sunset on Beach"*
1st Honorable Mention—Eugene Hester (Washington)—*"Fisherman at Dawn"*
2nd Honorable Mention—Bart O'Gara (Region 6)—*"Yukon Night"*
3rd Honorable Mention—Jan Joness (Region 4)—*"Reflections"*

"Endangered and Threatened Species" Category

1st Place—Steve Van Riper (Region 2)—*"Immature Brown Pelicans"*
2nd Place—Curtis Carley (Region 2)—*"Male Red Wolf"*
3rd Place—Bill Leenhouts (Region 4)—*"Dusky Seaside Sparrow"*
1st Honorable Mention—Gerry Atwell (Region 5)—*"Peregrine Falcon"*
2nd Honorable Mention—Gary Montoya (Region 2)—*"Whoopers with Sandhills"*
3rd Honorable Mention—Mike Boylan (Region 3)—*"American Alligators"*
4th Honorable Mention—Philip Stoddard (Region 5)—*"Galapagos Hawk"*

BLACK AND WHITE PRINTS

Best in Show—Dean Biggins (Region 6)—*"The Late Hunt"*

"Fish and Wildlife" Category

1st Place—Richard Baetsen (Region 3)—*"Raccoon"*
2nd Place—Jo Keller (Alaska)—*"White Fronted Goose"*
3rd Place—Gary Montoya (Region 2)—*"Evening's Last Feeding"*
1st Honorable Mention—Charles Ault (Region 2)—*"Gray Fox"*
2nd Honorable Mention—William Ziegler (Region 3)—*"Raccoon"*
3rd Honorable Mention—Thad Fuller (Region 6)—*"Young Burrowing Owls"*

"Work of the Service" Category

No 1st, 2nd, and 3rd Place awards given.
1st Honorable Mention—James Palmer (Washington)—*"Examining Snapping Turtle in the National Aquarium"*
2nd Honorable Mention—Chris Olsen (Region 2)—*"Goose Banding"*
3rd Honorable Mention—Barry Tarshis (Region 5)—*"Collecting Black Fly Larvae"*

"Public Use" Category

No awards given.

"General" Category

1st Place—Dean Biggins (Region 6)—*"The Late Hunt"*
2nd Place—Peter Carboni (Region 2)—*"Abandoned Hay Lift"*
3rd Place—John Moring (Region 5)—*"Lions in Woodland Park Zoo"*
1st Honorable Mention—Robin West (Alaska)—*"Totem Pole"*
2nd Honorable Mention—Lynn Nymeyer (Region 2)—*"The Prairie Windjammer"*

"Endangered and Threatened Species" Category

No 1st, 2nd, and 3rd Place awards given.
1st Honorable Mention—Roxy Rehpohl (Region 3)—*"The Missing Lynx"*
2nd Honorable Mention—Jo Keller (Alaska)—*"Peregrine Falcon"*

—David Klinger
Office of Current Information

1980 National Photo Contest

Best In Show (Color)
1st Place—General (Color)

"Hangliders" by Ron Singer (Washington Office)

Area Offices

cont. from p. 1

Maryland, the District of Columbia, and Virginia. Virginia and West Virginia share a large border and similar resources, including endangered species and freshwater fisheries served by National Fish Hatcheries in both States.

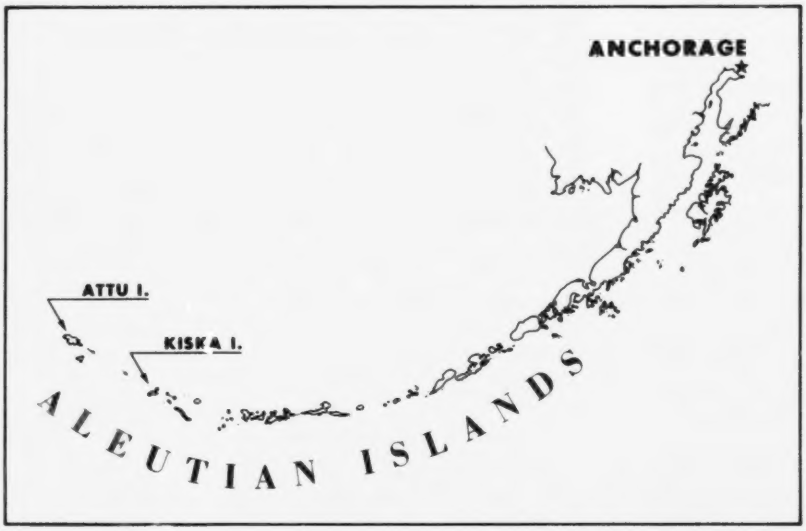
Area Offices under the direction of Region 1 in Portland will also be realigned. The Boise Area Office will assume resource management responsibilities in Nevada and Idaho. These two States share several major concerns, including Great Basin migratory birds, animal damage management operations, and desert fish and plants. Activities in Washington and Oregon, which have similar coastal characteristics, will be consolidated in the Olympia Area Office. The Boise and Olympia offices will continue to share responsibility for managing resources in the Columbia River Basin, with administration divided along the natural boundaries of the Columbia River in Washington and Oregon, and the Snake River in Idaho.

The reorganization leaves the Sacramento Area Office responsible for California activities alone. The change will enable the office to deal more effectively with California's complex conservation problems, which require coordination with numerous other agencies.

—Joy Davis
Office of Current Information

THE ALEUTS:

Forgotten Casualties of Japanese Invasion, American Internment



map by Warren Wilcox, Division of Realty

The upheaval suffered by some 120,000 American citizens of Japanese descent confined in detention camps in the western United States during World War II is well known.

Far less has been written about the almost 1,000 residents of the Pribilof and Aleutian Islands who were uprooted from their homeland and confined in similar camps, under the administration of the Fish and Wildlife Service, for most of the war.

These Aleuts were not considered a security risk. They were evacuated in haste from their islands following the Japanese attack on Dutch Harbor Unalaska, in the center of the island chain, and the occupation of the far western islands of Attu and Kiska by the enemy.

Enemy Anticipated

A June 1980 report by the counsel to the Aleutian/Pribilof Islands Association, Inc., for the U.S. House of Representatives, states that as early as April 1942, intercepted Japanese radio traffic confirmed enemy plans to launch an attack, probably that June, on the Aleutian Islands. About that time, there were inconclusive discussions among government officials regarding the welfare of the Aleuts and other civilians who lived on the island chain. Since a majority of those officials opposed evacuation, no attempts were made to remove the residents, although the Navy had indicated it couldn't protect anyone past the point of Dutch Harbor. The ultimate responsibility for these people was left to the Department of the Interior.

When Japanese forces did attack Dutch Harbor in June, local military commanders thus found themselves completely defenseless, unprepared for an orderly evacuation of the Aleuts residing on the Aleutian chain and the Pribilof Islands.

Service Administered

In 1942, the Pribilofs, a small island group located about 180 miles north-northwest of Dutch Harbor in the Bering Sea, were under the administration of the U.S. Fish and Wildlife Service. Then, as now, the Pribilof Aleut villages of St. Paul and St. George were the largest Aleut villages in the region. Their principal industry was the North Pacific fur seal harvest.

Resident Fish and Wildlife Service personnel and the Aleuts of St. George were given less than 24 hours to prepare for departure (the Aleuts were permitted to leave their homes with only a suitcase), and livestock were slaughtered as the island was rigged for destruction.

The evacuation of St. Paul was only slightly more orderly—while cattle were returned to the wild, the buildings were not rigged for destruction, and the people were permitted to take more personal belongings.

Many of the Service's personnel evacuated with the Aleuts were reassigned to duties elsewhere within the Department. Others returned to their homes in the lower-48 States. And some were dispatched to oversee the Aleut internment camps.

Government officials directed the Fish and Wildlife Service to retain responsibility for the Pribilof Aleuts, while the Bureau of Indian Affairs was given responsibility for all other Aleuts. Camps for the Pribilovians were established at Funter Bay, near Juneau; the St. George group was settled at an abandoned gold mine on one side of the bay, with the St. Paul facilities on the other side. The Bureau of Indian Affairs located other Aleuts at the site of a fish cannery at Killisnoo near Funter Bay.

Tragically, the Interior officials, despite having the best of intentions, were soon to become the virtual jailers of their Aleut charges. And conditions in the camps, catalogued in records that survive, were to become intolerable as the ravages of neglect and disease took their toll.

These records show that a total of 881 Aleuts were removed and relocated in the summer of '42. By midsummer 1943, the Japanese had been defeated on Attu and Kiska and had withdrawn entirely from the Aleutian chain.

The active war in the Aleutians was over—for everyone but the Aleuts. they were to remain in their camps for almost another 2 years.

Ickes' Request

A few months after the evacuation of the Aleut villages and the establishment of the camps in southeastern Alaska, Interior officials began to realize that military commanders had overreacted in their treatment of the Aleuts. In November 1942, Secretary of the Interior Harold Ickes wrote Secretary of War Henry Stimson, suggesting that arrangements be made to return the natives to the Pribilof Islands in April and May of 1943 to resume sealing and other operations. Ickes said, "This will remove the natives from their present unsatisfactory status as refugees, improve their health, enable them to earn a livelihood, and at the same time will produce revenue for the Government."

Stimson ordered that sealing operations could resume on the Pribilofs, and that the St. George community could be repatriated in the spring of 1943. In a December 13, 1943 letter to Ickes, Stimson gave his formal approval to the return of all Aleuts to their homes. Still, these people were kept segregated in their camps until 1944-45.

However, sealing operations were conducted on the Pribilof Islands during the 1943 season. About 150 able-bodied male Aleuts were recruited or impressed into service from the camps in early May and transported back to their home islands to conduct the annual harvest. The women, children, younger boys, and some older men were left behind at the camps to fend largely for themselves, as most of the Service personnel returned to the Pribilofs to oversee the sealing operation.

The massive harvest turned out to be the largest season on record since management of the seal herd was taken over by the United States Government. Fish and Wildlife Service officials were elated by the success of the project. The Aleut sealing workers were not. Their parents, wives, and children were coping with disease, inadequate medical care, and other deprivations back at the Funter Bay camps.

Report Critical

The Association's recent report states that the Aleuts were kept in the camps because it would have been inconvenient to return them to their homes. In some cases, their homes were used for billeting troops; in others, they were destroyed or plundered by vandals. Significantly, the report indicates that the Department of the Interior wanted to maintain the Aleuts in a cohesive group to ensure the successful fur seal harvest of 1943.

The report says, "The Aleuts' property was taken or destroyed without compensation; they suffered internment without adequate shelter, food, clothing, potable water, or medical support and supplies. They lost their basic rights and became low priority as human beings. Through neglect, they suffered epidemics of disease and they died. When they were finally repatriated to their homes, the President of the United States limited any claims for the Aleuts, in the aggregate, to $10,000 (no more than $12 per person)."

Recently, Aleuts through the Aleutian/Pribilof Islands Association, asked Congress to consider that the proposed "Commission on Wartime Relocation and Internment of Civilians Act" be expanded to include an investigation of their internment and suffering. This act had originally been introduced to investigate the internment of Japanese-Americans.

Stevens' Bill

Through the efforts of Alaska Senator Ted Stevens, the Senate approved amendments to provide full Aleut participation under this legislation. The Senate-passed bill went to the judiciary committee of the House for consideration; the Senate later concurred in certain House amendments. U.S. Senate bill 1647 was signed by President Carter on July 31, 1980.

On signing the bill, President Carter observed this "establishes a seven-person commission that will work during the next 18 months to look into one of the disappointing and sometimes embarrassing occurrences in the history of our Nation." Included in the act are provisions for the commission to review the circumstances surrounding the relocation and detainment of the Aleut civilians and to recommend appropriate remedies.

"It's not designed as a witch hunt," the President said of the new law. "It's designed to expose clearly what has happened in a period of war in our Nation. . . . I don't believe anyone would doubt that injustices were done, and I don't think anyone would doubt that it is advisable now for us to have a clear understanding, as Americans, of this episode in the history of our country."

—Dee Gable
Office of Current Information

Growing Up in the YCC Program

Woman Aids Wheeler's Operations

Craig Rieben
Asst. PAO, Atlanta

When Tom Atkeson, manager of the Wheeler National Wildlife Refuge in Alabama, dropped by a local school back in 1973 to talk about the Youth Conservation Corps program, little could he realize that he was addressing a young woman who was to become a key figure in his YCC program in future years.

Denice Allen, formerly Denice Johnston, had grown up on her father's dairy farm and as a senior in high school was wondering what to do for a summer job after graduation. It was then that refuge manager Atkeson discussed the YCC program. That summer found her as an enrollee involved in a variety of clean up and improvement projects on the refuge.

That fall she entered college but returned to the YCC program at Wheeler as a group leader the following summer. For 3 consecutive years, Denice pursued her studies in physical education, each summer returning to Wheeler and the YCC program. During some periods she also held down a job as a nurse's aid at a local hospital.

During the summers of 1977 and 1978, Allen was not a part of the YCC action at Wheeler but she was nonetheless busy. In the spring of 1977 she received her B.S. degree in health, physical education, and

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ACID RAIN: INDUSTRIAL FALLOUT IN THE NORTH WOODS

A silent, odorless, colorless industrial killer is raining down upon the great North Woods of the United States and Canada and stealthily turning many of the continent's most pristine waters into aquatic wastelands.

In the following article, Dr. Kent Schreiber, acting leader of OBS's National Power Plant Team in Ann Arbor, Michigan, takes a look at the problem of "acid rain" and the research the Fish and Wildlife Service is conducting to better understand the problem and assist in its solution.

photos courtesy National Power Plant Team

Seining in Lake Hildebrand in northern Wisconsin. This lake, already fairly acidic, is quite susceptible to acid rain damage.

Dr. R. Kent Schreiber
Acting Leader, National Power Plant Team
Ann Arbor, Michigan

A new term has been added to discussions of weather and environmental quality in general—"acid rain".

Although all rainfall is slightly acidic due to carbon dioxide, rain, snow, and hail can be further acidified when oxides of sulfur and nitrogen produced from burning fossil fuels or driving automobiles react chemically with oxygen and moisture in the air to form stronger acids.

As it falls on lakes and rivers, acid precipitation can change the aquatic environment from an alkaline to an acidic condition, preventing many fish species from spawning. This shift also increases the availability of aluminum and other metals, which may in turn be absorbed or ingested by fish and enter the fish chain. As acidic stress on the ecosystem increases, fewer species and decreasing numbers of individuals can survive.

Second Greatest Threat

In his August 1979 Environmental Message to Congress, President Carter called acid rain one of the Nation's most serious environmental threats. He directed the reprogramming of $10 million per year into acid rain research and the creation of a Federal Acid Rain Assessment Program. That program forms the basis for research and is coordinated by the Environmental Protection Agency (EPA) and the Department of Agriculture.

The Fish and Wildlife Service has recently identified acid rain as one of its national priorities and named it one of its top 10 "Important Resource Problems (IRPs)".

In its latest report to Congress, the President's Council on Environmental Quality said, "Insufficient knowledge exists about the explicit causes and total effects of acid rain, a fact that has hampered development of sound control and mitigation measures." This lack of information forces a sort of anticipatory science: in order to give public policy machinery a direction, scientists must produce the best quantitative and predictive data they can as quickly as possible.

The Fish and Wildlife Service, through its National Power Plant Team in Ann Arbor, Michigan, and several of its other field units, has begun a program to fill the information gap on the effects of air pollution and acid rain on fish and wildlife resources. The Team is the Service's interdisciplinary group that supports research and technology development to minimize the negative impacts of electric power generation and transmission on fish and wildlife.

As the Nation has shifted from reliance on foreign oil to domestic coal, the Team has focused its attention on the possible impacts on aquatic and terrestrial ecosystems from burning coal for electric power generation. In 1978, a technical report and field manual for biologists on the impacts of coal-fired power plants on fish and wildlife resources identified acid precipitation as an air pollution problem and revealed the general lack of available information on the ecological impacts of acid rain.

Measurements Vary

It is difficult to estimate what the quality of rainfall "should be" or what it may have been at various times and places throughout history. Chemists measure acidity by the "pH" scale of from 1 to 14, with 7 being neutral—neither acidic nor alkaline. Numbers less than 7 indicate acidity, over 7, alkalinity. The "pH" scale is logarithmic; that is, each number represents a 10-fold increase in acidity over a higher number. Water with a "pH" of 5 is 10 times more acid than water with a "pH" of 6. With a "pH" of 4, it would be 100 times more acid.

Rain under normal, unpolluted conditions has a "pH" of about 5.6. Many fish are unable to spawn successfully in water with a "pH" less than 5, and die as the "pH" approaches 4.

The first known measurement in this country of a single rainstorm, in Maine in 1939, recorded a "pH" of 5.9—slightly less acid than "pure rain." From records of chemical analyses of rainwater in the mid-1950's, chemists have estimated that rains during that period must have generally been acidic—possibly from 4.3 to 4.6—from West Virginia to New Hampshire and west to central Ohio. Measurements taken in the early 1970's showed that a larger area than was previously thought, from northern Alabama to Maine and west to eastern Indiana, was receiving rains averaging "pH" 4.5 or less.

The International Joint Commission, the American-Canadian agency that monitors the quality and cleanup of the Great Lakes, estimates that emissions of sulfur dioxide in North America reach about 23 million tons a year. Of that amount, approximately 19 million tons are emitted from U.S. sources, with 60 percent coming from the thermal power industry. U.S. emissions of nitrogen oxides reach about 22 million tons a year, about equally from fixed and mobile (mainly automobiles) sources. Canada contributes some 1.4 million tons of nitrogen oxides a year, mostly from mobile sources.

Some scientists see in these records a trend toward more widespread and more strongly acidic rain. Others say the data are too meager to justify that conclusion. The measurements that are being made today and the studies on the effects of acid rain will constitute the historical data base for scientists in the coming years.

Ironically, one of the most heavily touted success stories in the cleanup of stack emissions has, in turn, caused one part of today's acid rain problem. Many utilities, in a conscientious effort to reduce ground-level concentrations of sulfur dioxide and nitrogen oxides that might endanger public health or the local environment, began about 20 years ago equipping power plants with very tall smokestacks—some more than 500 feet tall.

While the stack emissions rapidly dissipate to concentrations so low that they are difficult to measure, tower height insures that mixing, long-range transport, and the chemical change into nitric and sulfuric acids will occur. Scientists are now finding that winds can carry pollution from tall stacks hundreds of miles.

Team's Projects

The National Power Plant Team has undertaken a number of new projects, sponsored in part by EPA's Interagency Research and Development Program, and aimed at developing new information on the potential threat of air quality degeneration on aquatic and terrestrial ecosystems.

As supervisory ecologist and coordinator of the air pollution/acid rain project for the team, I feel that a full program—including in-house research, funding for other selected research projects, and team participation on a number of task forces dealing with various aspects of the acid precipitation problem—is going to provide a good base of information and the necessary tools for decisionmakers to use in attempting to solve the problem of acid rain.

Our project emphasizes:

- Developing new data and compiling existing information on the effects of acid rain on aquatic and terrestrial ecosystems;
- Assessing current impacts and methods of mitigation;
- Integrating acid rain information into the decisionmaking process;
- Developing techniques for predicting areas of air pollution impacts;
- Evaluating techniques for the management and reclamation of coal combustion wastes;
- Developing information on the exchange of materials between the atmosphere and the biosphere;
- Carrying out Fish and Wildlife Service responsibilities under

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Acid rain research technicians pull a northern pike from a gill net on Lake Hildebrand, in northern Wisconsin.

PROGRAM BRIEFS

Fishery Resources

Reorganization. Revamping of the Washington Office Fishery Resources staff has been approved, resulting in the appointment of Tom Parisot as Deputy Associate Director—Fishery Resources, and creation of the new Division of Hatcheries and Fishery Resource Management. The new division combines the activities of the former Division of National Fish Hatcheries and the Office of Fishery Assistance.

Parisot, formerly chief of Fishery Resources' Program Development Staff, will serve under Associate Director Galen Buterbaugh.

Record runs. The number of Atlantic salmon returning to the Penobscot and Connecticut Rivers in New England has surpassed previously recorded runs. The estimated 2,500 salmon returning to the Penobscot and the 160 in the Connecticut this year easily surpassed the previous records of 918 and 90. The stocking of juvenile salmon and the construction of fish passage facilities at dams have contributed to the salmon restoration effort, as well as helped other species. In late May, shad were able to negotiate the recently completed fishway at Turner Falls Dam in Massachusetts and gain access to spawning grounds that had been blocked for over a century.

Open house. Despite damage from a devastating hailstorm, the crew of the Gavins Point National Fish Hatchery and aquarium in South Dakota held a successful open house at their facility recently, drawing 1,820 visitors to their displays on fish propagation and prairie wetlands.

Wildlife Resources

Dinosaur discovery. Work continued this summer on the excavation of the bones of a prehistoric reptile on the C. M. Russell National Wildlife Refuge in Montana. An archeological crew of students from Montana State University and the Bozeman high school spent several weeks in June excavating 15 feet of backbone, skull, and "paddles" of a "mososaur"—a swimming reptile found in the shallow inland sea that stretched across North America about 70 million years ago.

Ann McCollum, wife of refuge employee James McCollum, discovered the fossil last fall when she spotted a vertebra lying on the ground at the refuge's rugged Missouri River Breaks section.

Energy fair. An exhibit prepared by Region 6 employees Al Green, regional energy coordinator, and Kent Olsen, interpretation and recreation biologist, highlighted the Service's participation in Denver's 3-day "Energy Fair" last June. The exhibit depicted three current construction projects underway at National Wildlife Refuges in the region—headquarters buildings at Sand Lake, Upper Souris, and Bowdoin refuges. The three feature solar heating systems in their designs.

Turtle bust. A Federal grand jury in Miami indicted four men and six corporations in early August for illegally importing 45 tons of meat from the endangered Pacific (olive) ridley sea turtle. The indictments followed an 18-month investigation by the Service and other Federal agencies. About 7,500 ridleys in Mexico had to be slaughtered to obtain the meat in this case, Law Enforcement agents estimate.

Reorganization. The Washington Wildlife Resources activities have recently undergone a reorganization, resulting in several personnel changes and establishment of a new Division of Wildlife Management.

The new division combines the former Division of Animal Damage Control and Office of Wildlife Assistance. James Gillett was designated acting chief of the new division.

Clarence "Ki" Faulkner has assumed the duties of special assistant to the deputy associate director—wildlife management. Curtis Wilson has been assigned as acting migratory bird program coordinator and John Carlsen as acting mammals and non-migratory birds program coordinator.

Research

Peace Corps volunteers. Seven Peace Corps volunteers destined for the Central African Republic spent 2 weeks at the Fish Farming Experimental Station in Stuttgart, Arkansas, in July, receiving training in fish culture. Under the direction of Don Kuntzelman of the Fisheries Academy, the volunteers studied pond construction, rotation of fish ponds with rice culture, and commercial fishing gear manufacturing.

Woman

cont. from p. 7

recreation with highest honors and a 4.0 average from Auburn University. She then went for a master's degree in the same subject, which she received in 1979. Membership in Phi Kappa Phi accompanied her degrees.

But the summer of 1979 found her back at Wheeler working right along with that year's enrollees as a group leader. This past summer she returned as YCC camp director. During the school year she is a roving physical education teacher responsible for two elementary schools and their 650 students.

She and her husband Ricky, also a physical education teacher, live on a 20-acre farm in Somerville, Alabama. They have a few cattle but their first love is raising and riding quarter horses. Denice says the YCC program provides her a good summer job, while giving the enrollees the experience necessary for that all-important first job. She points out the values the YCC program fosters in teaching about the refuge, wildlife, and outdoor ethics.

Refuge manager Atkeson minces few words when it comes to her capabilities. "She's a winner," he says. "She is as smart as she can be and one of the hardest workers I've seen." There's almost a tinge of fatherly pride in Atkeson's voice as he points to Allen's accomplishments on the refuge, as well as the numerous scholastic awards she has received.

When asked if he thought Allen would be a part of the Wheeler YCC program again, Atkeson lamented, "She might be off getting her doctorate or something." But when you ask Allen the same question, she replies, "Frankly I'd like a summer off, but if the YCC program still exists at Wheeler next year, I'll be here."

Leetown Hosts Emigre Sturgeon Expert

George Gutsell
Writer-Editor
National Fisheries Center—Leetown

One of the world's most primitive fishes, the sturgeon, is receiving priority attention by the modern world of fishery technology because of its important food value. It was the subject of a 3-day symposium this summer at the National Fisheries Center—Leetown, attended by more than 40 Federal, State, and academic researchers.

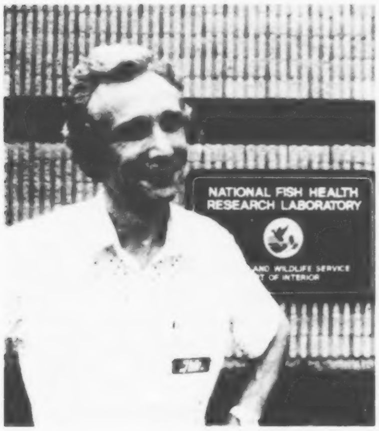

photo by George Gutsell

Dr. Sergi I. Doroshov

Russia and sturgeon are almost synonymous. One of the principal speakers at the Leetown seminar was a former Russian citizen, Dr. Sergi I. Doroshov, now an associate professor at the University of California at Davis, who gained experience with sturgeon while a researcher in his native land. Doroshov brought his expertise in aquaculture and reproductive biology to this country about 3 years ago when he and his wife and two children managed to defect to the United States and receive asylum.

In Russia, as in many other countries, sturgeon are a major source of food because red meat is scarce. There are 16 known species of sturgeon in the world, with seven found in the lakes, rivers, and coastal waters of the United States. As an example of its economic value here in the United States, smoked sturgeon, considered a gourmet delicacy, may cost $10 to $12 per pound while sturgeon roe, commonly known as caviar, will bring $40 a pound.

Although attaining huge size, sturgeon grow slowly. The female may not spawn until its 18th year. Recent advances, employing hormone injections, can accelerate this process, thus assuring time-regulated production of roe and young fish. This development is doubly important because several species are threatened with extinction.

The anticipated future needs for low-cost protein food for the United States has increased emphasis on aquaculture research and development.

Doroshov, who spent a year in Cuba as a fishery consultant before fleeing to the United States, noted that Russia has the largest fishing fleet in the world and is probably second only to China in fish consumption. Because the commercial fleets of both countries have practically fished out many ocean waters, the inland culture of fish is receiving high priority. The University of California and the U.S. Fish and Wildlife Service are likewise placing considerable emphasis on the sturgeon program.

Although this was his first visit to Leetown, Doroshov said research and technological advances at Leetown are well known in Russia and in many other countries that he has visited.

Born in Siberia, but spending his life in Moscow, Doroshov earned his master's degree from the University of Moscow in 1959 and his doctorate in 1967 from the Institute of Oceanography at the Academy of Science in Moscow. He had been assigned to the All Union Research Institute of Marine Fisheries and Oceanography in Moscow, and in 1964 he became involved in USSR fishery information exchanges, in a role similar to those of Dr. Robert E. Putz, Leetown director, and David W. McDaniel, assistant Leetown director, on behalf of the United States and the Fish and Wildlife Service.

Row over Roe

Several brood trout were stolen from a section of raceway at the Dale Hollow National Fish Hatchery in Tennessee last May 21 after being effectively gigged by some intruders.

Unfortunately for the perpetrators of this nighttime raid, the fish were all close to spawning. Sharp-eyed hatchery personnel followed a trail of eggs the next morning to a nearby campsite, already vacant. By checking back registrations at the campground, they turned up the license number of an Indiana auto.

Law Enforcement agent Paul Gladdys in Nashville took the number and, after some collaborative sleuthing with Indiana police, helped apprehend three "fishermen" who returned the fish and were fined for their midnight angling.

They still face the charge of fishing without a license from the State of Tennessee.

—John Leonard
Division of Hatcheries and Fishery Resource Management

photo by Lee Emery

Sturgeon

Public Attitudes Toward Hunting and Hunters

A. H. Rohlfing, Executive Director, National Shooting Sports Foundation, Inc.

The National Shooting Sports Foundation has as a goal the promoting of a better understanding of shooting sports and, toward that end, we have periodically examined attitudes held by the public toward hunting and hunters.

To bring you up to date on how we became involved in the most recent examination, let's go back a few years and remember the wave of indignation that swept through the shooting and hunting ranks when "Guns of Autumn" was aired and so many of us were painted a very dark black.

The Foundation was asked to take a leadership role in rebutting the claims against hunting. We were willing and eager to take on the job, but we felt that we'd better be sure we knew the questions.

Looked at another way, we knew we could write a spirited defense of hunting, but just how sure are we that we're being responsive to attitudes held by the general public? Responsive to the anti-hunters, certainly. We know what they think. But the broad band of the general public—what do they think?

So, we set a course to find out. We hired Batton, Barton, Durstine & Osborne, a top-five New York advertising and public relations agency, and presented them with the problem. The idea behind all this was that once we had a clear fix on the problem, we could then tailor a communication response for broad media that would reach *beyond* the committed sportsman to the general public.

We weren't quite prepared for what we found out. The survey work was done only with people who professed *no* "for-or-against" position on hunting and all of whom were adults. We found out that these people, by and large, had no real complaint against hunting but had strong feelings against the hunter because he, according to the agency study, is an ill-informed, unskilled fellow who isn't a very good citizen with respect to the rights of others, particularly landowners.

With these results, we had to stop and take stock of the situation. If that is what the general public thinks of the hunter, there is no way we can go to the public and turn that image around until the hunter does something about it first.

But we could go to work on the hunter with a variety of hunter ethics programs. We produced TV on the teaching of ethics in hunter education programs, full-page magazine ads for publications aimed at sportsmen and two folders on ethics, and wall posters for sportsmen's clubs and ethics releases to outdoor writers at the rate of one every 2 weeks.

VIEWPOINT

Communication is the key to any successful human endeavor be it marriage, business, or government. Out of it grows understanding and a more realistic approach to our everyday tasks. Polarization on issues can only lead to greater misunderstanding.

Since our profession touches the lives of many people it is appropriate that we make a point of listening to those who both agree and disagree with us and test their ideas against our own. This VIEWPOINT column will appear periodically in an effort to initiate the kind of dialogue that is needed to enable us to better understand and serve our entire constituency — the American people.

We also made plans for a new study that was different in scope and methodology. The agency study gave us a view of what the non-hunter saw as our most important and frequent problems. By its design, this study allowed for no positive comments or comments to open-ended questions. It looked only for negatives.

The agency study could be compared to an auto manufacturer who wanted to know what the most important and frequent problems owners of its model were having. Our new study could be compared to an auto manufacturer wanting to know what its customers thought about the models without being asked to give only negative or positive comments.

We went to Opinion Research Corporation of Princeton, New Jersey, and appointed a task force to work with it made up of key members of the research and marketing departments of three of our largest member companies.

There was an added advantage in working with Opinion Research. In 1964, and again in 1967, it had done studies for the Sporting Arms and Ammunition Manufacturers' Institute, and part of those studies could be duplicated in our own, thus giving shifts, if any, in public opinion on those points, at least.

In all of the questioning, the interviewer asked for opinion in the areas of both big game hunting and small game hunting. We defined the two categories for the people being interviewed.

As space would never permit a detailed review of the study, let me relate to you the summary overview of the findings as reported by Opinion Research. Remember, it is reading the data. Opinion Research is not conveying any measure of personal opinion, and I've quoted directly:

Americans' participation in hunting (people who report having ever hunted) declined by more than one-fourth over the past 15 years. The lowest level of hunting among men is for those in their twenties, only 51 percent, as compared with 56 percent of men 30 to 45 and 61 percent of men 45 to 59 years.

This situation makes it more of a challenge for the National Shooting Sports Foundation to promote hunting as a sport and also to improve public understanding of the hunter, his motivations and enjoyments.

Nevertheless, eight Americans in 10 personally know someone who hunts. This network of personal contacts can be useful in maintaining or improving the public's understanding of hunters and hunting. Particularly among teenagers, of whom only one in five hunt, over half say that some of their closest friends are hunters, while a fourth know someone who hunts, although not closely.

Females are the main opponents of hunting. Three-quarters of men and teenage boys are either for hunting or have ambivalent feelings toward it—a comfortable majority who would probably be receptive to pro-hunting ideas and influences. Thirty percent of women say they are against hunting, and only 20 percent say they are for the sport.

Opposition to hunting in general is stronger in the Northeast and built-up areas of the U.S. than in the rural South and West. Landowners of 100 acres or more display little opposition (8 percent) to hunting, while game wardens display none at all.

Love of nature has emerged as the most important satisfaction of hunting, in the testimony of hunters. Game meat is mentioned more frequently by hunters today than 15 years ago. In general, the recreational aspects of hunting receive more emphasis than do the competitive aspects, such as skill, using a gun, thrill, or success.

Adjectives which Americans select from a lengthy list to best describe the average hunter reveal a steady decline of favorable words (good sport, respects laws, careful, kind, likeable, or intelligent) since the Sixties and doubling of unfavorable words (tough, careless, cruel, inconsiderate, doesn't like animals, irresponsible, unfair, poor sport, or stupid).

This trend is clearly not a healthy one, although the criticism has not yet reached an alarming level. Perhaps of greater concern is the current level of teenage criticism—twice that of the adult public and nearly five times the adult level of 1964.

Big game hunting has slightly more negative public image than does small game hunting. On balance though, more adults approve than disapprove of both kinds of hunting, giving a slightly favorable edge to small game hunting.

Among teens, on the other hand, more disapprove than approve of both kinds of hunting, reserving somewhat stronger criticism for big game hunting.

The public's negative perceptions toward hunting center on cruelty to animals. Countering this are the public's positive perceptions of hunting as providing food for humans, preserving the balance of nature and furnishing enjoyment as a sport. These positive perceptions are expressed also by game wardens and landowners.

The public on balance sees hunters as making a limited contribution to the conservation of forests and wildlife. Today, a plurality of the public says this contribution is "little," whereas a majority said it was "great" in 1964. Even among hunters themselves, fewer than two-thirds view their contributions as "great" today, down from about three-fourths in 1964.

photo by Bob Hines

Among game wardens and landowners, the positive aspects of hunters far outweigh the negative aspects. Nearly to a man, game wardens feel favorably toward hunters, as do most landowners, although some of the latter are ambivalent or even openly critical.

Lack of common courtesy and causing damage, not safety, are seen by landowners as the major problems with hunters today. Breaking down fences, leaving gates open, tearing up property or vegetation with vehicles, littering, and spooking cattle and domestic animals are specific examples of the kinds of hunter behavior that landowners find objectionable. Game wardens agree with landowners on these points to some extent, but are even more emphatic about hunters' disregard for rules and breaking of laws which are the major problems they encounter, as might be expected.

A series of hunters' actions, both positive and negative, were described to game wardens and landowners in the survey in order to determine how frequently each action occurs—often, sometimes, seldom, or never. Criticism runs high that hunters "often or sometimes" trespass, shoot too quickly or too close to roads, litter, or drink alcohol.

On the other hand, hunters are said to "seldom or never" leave fires unattended, shoot at farm animals, tear up roads, or leave wounded animals to die. Most landowners and game wardens agree that positive actions of hunters include being courteous, observing safety precautions, and respecting the rights of others "often or sometimes." Minorities say, however, that hunters "seldom or never" support wildlife or practice true conservation, or ask permission to enter private land.

Over half of all landowners interviewed have posted their land against hunters. Approximately a third of farmers who have posted their land state that they would allow hunting if hunters would ask permission. They object to finding hunters unexpectedly on their land. Another third would allow hunting only by people they know, including friends and relatives.

Charging a fee is not the issue—only 2 percent of landowners mention this action on an unaided basis, and only 4 percent after being specifically asked about it.

These survey results on the whole indicate a need for improved communication by the Foundation with the public about man the hunter and his role as an integral part of nature—observing, conserving, protecting, enjoying, and continuing the role of predator which he has filled for thousands of years. In many instances, due to the absence of natural predators, man the hunter serves a

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Cedar Point Enlarges Through Businessman's Gift

Mike Boylan
Outdoor Recreation Planner
Ottawa National Wildlife
Refuge Complex
Oak Harbor, Ohio

Ohio's Cedar Point National Wildlife Refuge was enlarged recently with the donation of a 200-acre parcel which includes the State's newest bald eagle nest.

At a June 20 ceremony, Toledo industrialist Edward Lamb presented the deed to the property to Dr. Laurence Jahn of the North American Wildlife Foundation. Jahn then presented it to Richard O. Winters, assistant area manager of the Service's East Lansing Area Office.

Cedar Point, along with Ottawa and West Sister Island National Wildlife Refuges, comprise the Ottawa National Wildlife Refuge Complex. Its 8,316 acres constitute nearly 60 percent of the remaining wetlands in northwestern Ohio. The recent donation brings the Cedar Point portion to 2,445 acres.

In 1965, 2,245 acres of the historic Cedar Point Hunting Club was similarly deeded to the Service through the North American Wildlife Foundation by the Cleveland-based club's 10 owner-members. As a private hunting club, Cedar Point had been managed for waterfowl since 1882. President Dwight D. Eisenhower hunted there as a guest of former Secretary of the Treasury George M. Humphreys.

In recent years, Cedar Point has been increasingly threatened by encroachment. The refuge's eastern boundary is occupied by an expanding private marina. The western boundary is being developed as Maumee Bay State Park, which, when completed, will accommodate over two million visitors annually with a beach for swimming, an 18-hole golf course, 150 campsites, and a 200-room lodge.

Earlier this year, the first bald eagle nest in 20 years was found on the Lamb property. There are an estimated 20 eagles in Ohio; half of these use the Ottawa complex. Prior to the donation, the Lamb property's lakefront location and isolated beach were a problem for refuge law enforcement, but through the generosity of Edward Lamb, Ohio's newest nesting pair of bald eagles is assured of a greater degree of protection in their slow flight from the edge of extinction in the Buckeye State.

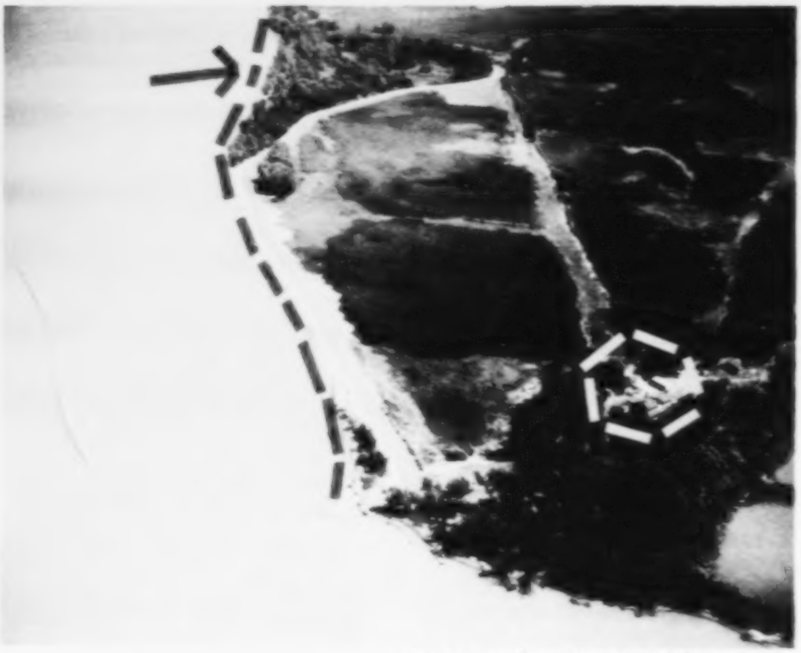

photo courtesy Ottawa National Wildlife Refuge Complex

The newest addition to Ohio's Cedar Point National Wildlife Refuge includes 170 acres of shoreline property along the dotted line and 30 acres of woodland containing the State's newest bald eagle nest (arrow). At lower right is the historic Cedar Point Hunting Club, whose members owned much of the property that now forms the refuge.

photo by David Klinger

Talking shop. *The Fish and Wildlife Service's National Wildlife Artist, Bob Hines, compares notes with 19-year-old Sherif Baha, illustrator of a forthcoming guide to the birds of Egypt. A Cairo native, Baha came to the United States in July under the auspices of the Service's International Affairs staff to meet the agency's personnel and tour some of its facilities. "Sherif is probably the best ornithologist they have over in Egypt, plus he has this talent in art," says IA staffer Dave Ferguson. Baha's volume will be the first book of its type ever issued in Egypt.*

Mattamuskeet, Schools Join for Environmental Education

Steve Frick
Refuge Manager
Mattamuskeet National Wildlife Refuge
Swanquarter, North Carolina

Through the efforts of the Mattamuskeet National Wildlife Refuge staff and the Hyde County, North Carolina, school system, an off-campus outdoor program geared towards having students gain an appreciation for the natural world they live and work in has begun.

Students in North Carolina's remote Hyde County, near the Outer Banks, have embarked on an innovative environmental education program with the help of the staff of Mattamuskeet National Wildlife Refuge. Here, instructor Joseph Windley holds class.

The environmental education portion of the program has been integrated into a revised basic ecology course which is required of all students enrolled in the system's college preparatory program. The revision in the course allows a minimum of 2 hours per week in an off-campus setting, using Mattamuskeet National Wildlife Refuge as an outdoor classroom. Starting with just tenth grade students, the program has expanded to include other grades this fall.

The off-campus location allows for days when the class cannot go into the field due to bad weather conditions or dense mosquito infestations. On these days, a portion of the Mattamuskeet Lodge is used as a classroom. And on days when it is just impossible to travel to the refuge, guest speakers from local natural resource agencies come into the school and speak to the classes.

The natural resource agencies provide a broad range of topics which range from basic wildlife management techniques to the needs and methods of recycling non-renewable natural resources. The agencies include North Carolina's Wildlife Resources Commission, Forestry Service, Natural Heritage Program, and Soil Conservation Service, as well as the Fish and Wildlife Service and the National Park Service.

Instructor Joseph Windley reemphasizes the material covered by guest speakers and includes this information in his daily lectures.

The future of this program is highly dependent upon the energetic refuge and school staff. The enthusiasm of the students is excellent—they are now giving up a portion of their lunch period to stay in the field longer. According to Mattamuskeet School principal Alfred Lockamy, "To date, the program is a complete success."

photo by C. U. Carter, Water and Power Resources Service

Rough day at the office? *Maybe, but for Director Lynn Greenwalt, the matter at hand was blood donation. Greenwalt helped kick off the first blood drive of the American Red Cross's 1961 campaign in July. Washington's Interior employees are favorites with the Red Cross, the Main Interior Building conveniently located across the street from its national headquarters.*

Erma Rachinski, coordinator of the blood drive in the Service's Washington Office, reports that the agency's donors topped their 1980 blood goal by 294 percent—a higher percentage than any other Interior agency, earning words of commendation from Department chairman Dr. Andy Adams. "The Department takes off its hat to you and is very proud of the tremendous achievement and dedication by the Fish and Wildlife Service employees in Main Interior who gave blood in this very worthy cause," he said.

Elsewhere, all of the Service's regional offices have some type of blood donor program, except for the Alaska Area Office. Portland's Terry Bellerby at the Bonneville Power Administration reports that Region 1 sponsors four mobile unit drives each year and that he's looking for volunteer donors. In Albuquerque, Jim Felty of Realty says Region 2 has 30 regular donors, with donations on a twice-a-month schedule.

Becky Johnson and Jim Engel in Twin Cities say that Region 3 sponsors a bloodmobile four times yearly, with good response from employees, while Region 4's Shelah Matheson is just getting a program started in Atlanta and is looking for new recruits. Boston sponsors a bloodmobile twice yearly, and Region 5 has about 35 regular donors, according to coordinator Joel Fox. Region 6 in Denver has only had a small turnout in the past and is looking for some interested donors to participate in its semiannual drives, says Joseph Young.

Viewpoint

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vital role in preventing overpopulation, disease, and starvation among animal species such as deer.

In terms of the Foundation's hunter education programs, the survey evidence shows that lack of courtesy and careless acts which damage property are the major problems identified with hunters, and not a lack of firearm safety requiring a more rigid licensing procedure. Hunters need to see themselves through the eyes of a landowner, or a game warden, to realize how the thoughtless acts of a few can lead to restrictions upon the rights of many to hunt in a socially responsible manner.

The survey is far too long and too complex to deal with it in its entirety, but what does the research really tell us? It tells us we have a serious problem with younger people, especially with girls. It tells us that some hunters are not behaving properly and need to become better citizens.

Surprisingly, we also find that hunters aren't as aware as they should be of their own contributions to conservation. The public awareness of this is dropping as well, and we all need to work hard in this area.

On the positive side, we find that a majority of the public still favors hunting, although the younger people don't. We also find that landowners who post land might allow hunting if only asked politely. The public perception of hunters is trending unfavorably but, as yet, isn't at a level to cause a riotous alarm. That in itself is reassuring, but there is no room for complacency. The attitude slope, however slight, is still going downhill.

All in all, hunting is still viable, but we all need to work and work hard to convince everyone that the hunter, far from being a devastating harvester, is really a true conservationist. We can't let an outlaw few ruin hunting for all of us with their irresponsible actions. There's a reservoir of good will still in favor of hunting.

There is more, much more, to the study, but this briefly goes to the center of the findings. As a result, the National Shooting Sports Foundation has launched an ambitious film effort aimed at placing a free filmstrip in 6,000 schools this fall and has developed and implemented a comprehensive new program to improve hunter ethics, and specifically landowner-hunter relations.

We are doing all we can to help keep hunting viable and welcome any suggestions or comments you would care to make.

National Shooting Sports Foundation, Inc., 1075 Post Road, Riverside, Connecticut 06878

Acid Rain

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clean air legislation; and

- Developing methodologies for research on the biological effects and monitoring of air pollution and acid rain on fish, wildlife, and their habitats.

As part of the current program, members of two Fish and Wildlife Service field units are currently investigating the vulnerability of lakes and streams in the New England and Middle Atlantic States which are particularly sensitive to the acidification process.

Under the direction of Drs. Terry Haines at the Columbia National Fishery Research Laboratory's field unit at the University of Maine, and Dean Arnold at the Cooperative Fishery Research Unit at Pennsylvania State University, this survey of approximately 600 lakes and streams will provide new information on the magnitude of the problem in this section of the country and data on "pH", alkalinity, and other aquatic characteristics that are important in understanding and tracking the progress of acidification in this region.

A third Service field study will determine the effects of acidification of northern Wisconsin lakes on resident fishes. Under the direction of Dr. James Wiener at Columbia Lab's La Crosse, Wisconsin, field unit, crews are sampling fish in six "highly susceptible" and six "nonsusceptible" lakes to determine if increased acidity causes anatomical changes and other abnormalities among fish species in the lakes.

Comparisons of concentrations of selected trace elements in fish are being made to determine if the rate of accumulation of certain potentially toxic elements to fish is increased by lake acidification. A companion Wisconsin Department of Natural Resources study will check the effects of increased acidity on young fish-of-the-year and minnows—the fish most affected by high acidity—in 65 lakes.

Other research planned for the near future includes a study of the effects of acid rain and spring snowmelt-caused "pH" change on Atlantic salmon populations in the United States, and workshops to identify the critical aspects of acid rain impacts on fishery resources. An assessment and information survey of the effects of air pollution and acid rain on fish, wildlife, and their habitats has also begun. The assessment reports will synthesize current information and identify specific areas that lack adequate information and require additional research.

Charles Warren, former chairman of CEQ, said in June 1978, "Because our evidence on this issue is so incomplete, it is premature to assume that a crash control effort is needed. On the other hand, it is certainly *not* premature to plan a comprehensive assessment of the acid rain problem."

Through programs like the National Power Plant Team's air pollution/acid rain project, scientists and decisionmakers will be provided some of the tools to begin solving the problem of acid rain.

Raptors

cont. from p. 2

company is making every effort to locate hazardous lines and make them safe.

Joseph said other Utah companies have replaced 6-foot with 8-foot crossarms lowered at least 36 inches from the top of the pole to allow enough clearance between live wires for the widest wingspans.

Shields is hopeful that other western utility companies will follow the lead of Utah Power and Light. Elimination of all power poles that are hazardous to birds of prey is his goal.

Correction

In the June-July 1980 issue of *Fish and Wildlife News*, the name of Dr. Theodore A. Bookhout, leader of the Ohio Cooperative Wildlife Research Unit and new president of The Wildlife Society, was misspelled.

Fish and Wildlife News regrets this error.

980/5

FISH AND WILDLIFE NEWS

Fish & Wildlife Service
UNITED STATES DEPARTMENT OF THE INTERIOR

October-November 1980

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New Nongame Bill Called Landmark

Benefits Urban Areas

Calling it "the most important wildlife conservation measure in recent years," Director Lynn Greenwalt said in October that the new Fish and Wildlife Conservation Act "closes the last major gap in this country's commitment to conserving our fish and wildlife resources."

The act was signed into law September 29 and is designed to benefit nongame species that are not ordinarily hunted, fished, or trapped for food, commerce, or sport, with special emphasis on urban wildlife. The legislation was supported by fish and game agencies from all 50 States and nearly 300 conservation groups.

When funds are appropriated as authorized by the act, they can be used to reimburse the States for 90 percent of the cost for developing comprehensive wildlife conservation plans. The plans identify significant fish and wildlife populations, their range and distribution, the condition of their habitats, adverse factors, and the actions that should be taken to conserve the species and their habitats. After the comprehensive plans are approved, the law also authorizes Federal cost-sharing for conducting approved activities such as research, inventories, law enforcement, and public education.

The measure authorizes $5 million in financial and technical assistance to the States for each of the next four fiscal years, beginning October 1, 1982. The funds are to be apportioned to the States primarily on the basis of population and land area. The District of Columbia, Guam, Puerto Rico, the Virgin Islands, America Samoa, the Trust Territory of

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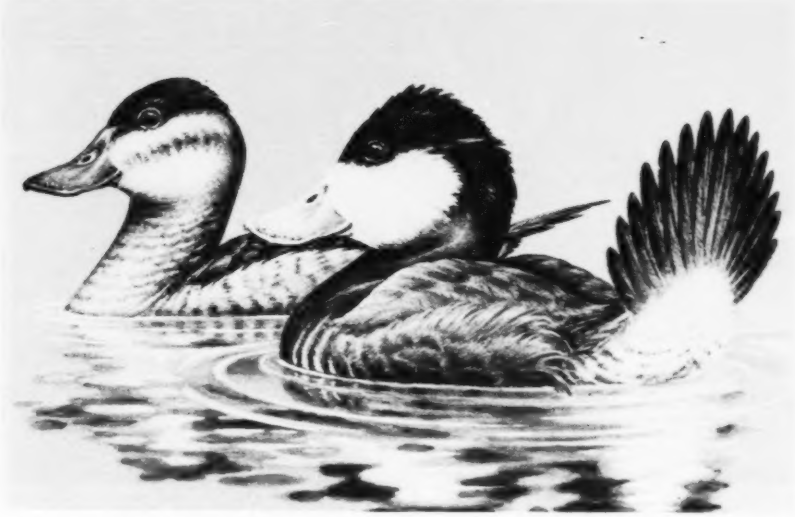

Pair of ruddy ducks on the water—John S. Wilson's winning design for the 1981-82 Migratory Bird Hunting and Conservation Stamp, the 48th in the "Duck Stamp" series.

"Ruddy Ducks On the Water" Tops This Year's Stamp Contest

South Dakota artist John S. Wilson's tempera painting of male and female ruddy ducks sitting on the water won the 1981-82 Federal "Duck Stamp" competition on November 6 at the Department of the Interior in Washington, D.C.

Wilson's entry topped a record 1,507 paintings in the Federal Government's only regularly sponsored art contest. The 51-year-old sign painter and designer from Watertown, South Dakota, joins the prestigious circle of "Duck Stamp" winners in the art world. The design will be reproduced on next year's Migratory Bird Hunting and Conservation Stamp.

Artist Self-Taught

Wilson, a self-taught artist, has worked for the Stein Sign Display company in Watertown for 25 years as a designer of plastic and neon signs. "I'm in a daze," he said when telephoned at his job and informed of his first-place win. "I'm just shaking like a leaf! I imagine the 'Duck Stamp' is going to mean a big change in my life."

The first South Dakotan to win the contest, Wilson had competed unsuccessfully in the last two Federal "Duck Stamp" showings with his

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On the Inside

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Herbst Visits Spearfish's Historic Sites

Stephanie Gibert
Outdoor Recreation Planner
Spearfish Fisheries Center

For close to 100 years, the community of Spearfish in the Black Hills of South Dakota has supported much of the Federal Government's hatchery operations in the western United States through the Spearfish National Fish Hatchery.

This past summer, the visit of Assistant Secretary for Fish and Wildlife and Parks Robert Herbst presented an opportunity for Federal, State, and local leaders to discuss the "next 100 years" for this center of fisheries husbandry and research.

The hatchery forms the nucleus of the Spearfish Fisheries Center, the historic center of recreational fishing in the Black Hills. Since there are no trout species native to the area, public interest in the late 1880's led to experimental trout stocking by the Federal Government in area streams. The Spearfish hatchery, built in 1899, formed the base from which Federal stocking operations were launched in the West in the early twentieth century.

Horse-drawn wagons departed Spearfish each year to collect trout eggs from Yellowstone National Park, 400 miles away, with expansion to other collection sites in later years. Distribution of fry and fingerlings to distant lakes and streams was performed by specially-equipped railroad "fish cars."

Region 6 Director Don Minnich and McNenny Hatchery manager Ray Phillips (from left) discuss pond production facilities with visiting Assistant Secretary for Fish and Wildlife and Parks Robert Herbst and John Mattoon, the Service's Assistant Director—Public Affairs.

Today the hatchery still plays an important role in the rearing of trout to their final stages of growth before stocking. It has been supplemented by a second hatchery, McNenny, which now propagates the bulk of the Spearfish Center's three-quarter million trout produced annually.

Herbst's tour also included a stop at the former Fish Genetics Laboratory in Sand Creek Canyon, Wyoming, acquired by the Fish and Wildlife Service in 1963. Although genetics research at the facility has been phased out, its labs will be used partly by the diet development research program, which will shift operations from McNenny in 1981. Plans for other replacement activities are ongoing.

Herbst, accompanied by Don Minnich, Region 6 Director, and James Salyer, Pierre Area Manager, and Spearfish director Arden Trandahl, met with more than 80 State and local leaders from South Dakota and Wyoming concerning the future of this facility and the economic impact of Federal fisheries operations in the area.

photos by Bob Coles and (inset) Glen Lau Productions

Judges (from left) Bellrose, Connor, Galbreath, Cross, and Cadieux judged John Wilson's entry (inset) and others by a flipcard scoring system.

First South Dakotan Wins in Design Judging

"Duck Stamp" *cont. from p. 1*

designs of bufflehead ducks and blue geese. He chose to depict the drake and hen ruddies on a pool of still water "simply because it was a species that hadn't been on the stamp in a long time and I felt that there wouldn't be too many others to compete against. I strive for accuracy and for something that I think people will like."

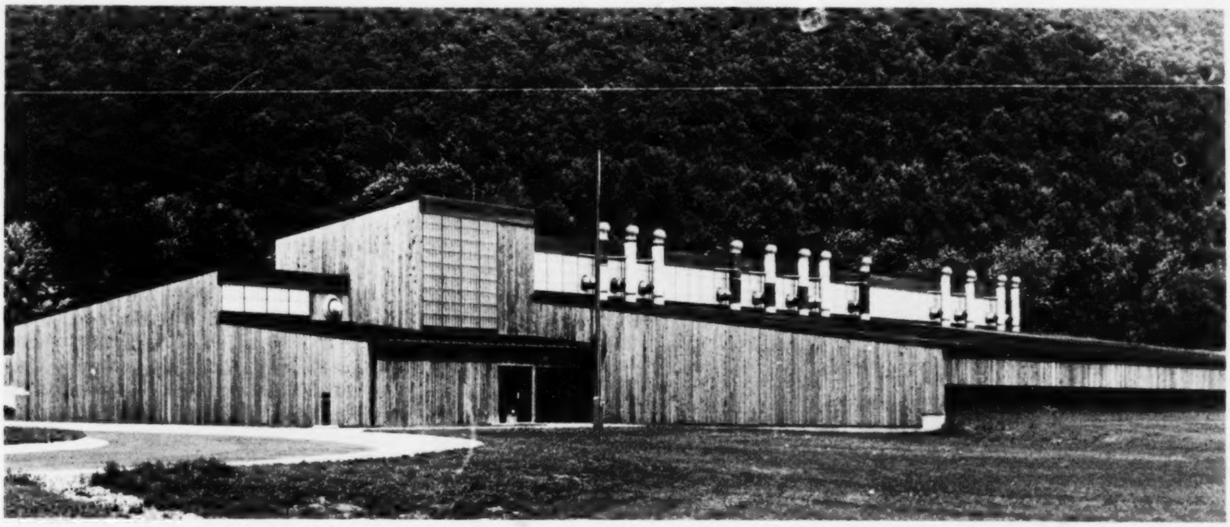
Other Winners

Daniel S. Smith of Minneapolis, Minnesota, won second place this year, with his painting of lesser snow and blue geese, and Ann D. Dohoney, of Shawnee, Kansas, took third place with her depiction of a redhead duck.

Judges for this year's contest were Dr. Frank Bellrose, wildlife specialist with the Illinois Natural History Survey, of Havana, Illinois; Charles Cadieux, past president of the Outdoor Writers Association of America, Inc., of Albuquerque, New Mexico; Billy Joe Cross, regional supervisor for Ducks Unlimited, Inc., and a former member of the Mississippi Game and Fish Commission, of Clinton, Mississippi; Cindy Dixon Connor, editor of *Waterfowler's World*, of Memphis, Tennessee; and Hugh Galbreath, wildlife manager of the Remington Farms Game Management Area in Chestertown, Maryland. Leonard Buckley of the Bureau of Engraving and Printing served as technical advisor.

Since 1934, when "Duck Stamps" first went on sale, nearly 2.5 million acres of prime waterfowl habitat have been acquired with over $367 million in revenue ($225 million from "Duck Stamp" receipts and $142 million from accelerated wetlands acquisition loan funds). By purchasing the stamps, more than 2.2 million hunters and other conservationists provide over $16.5 million in revenue yearly.

—David Klinger
Office of Current Information



Nestled amid the Pennsylvania highlands, the Fish and Wildlife Service's new Wellsboro Lab will provide much of the agency's research into the intensive culture of coolwater fish species.

Service Dedicates Its New Wellsboro Development Lab

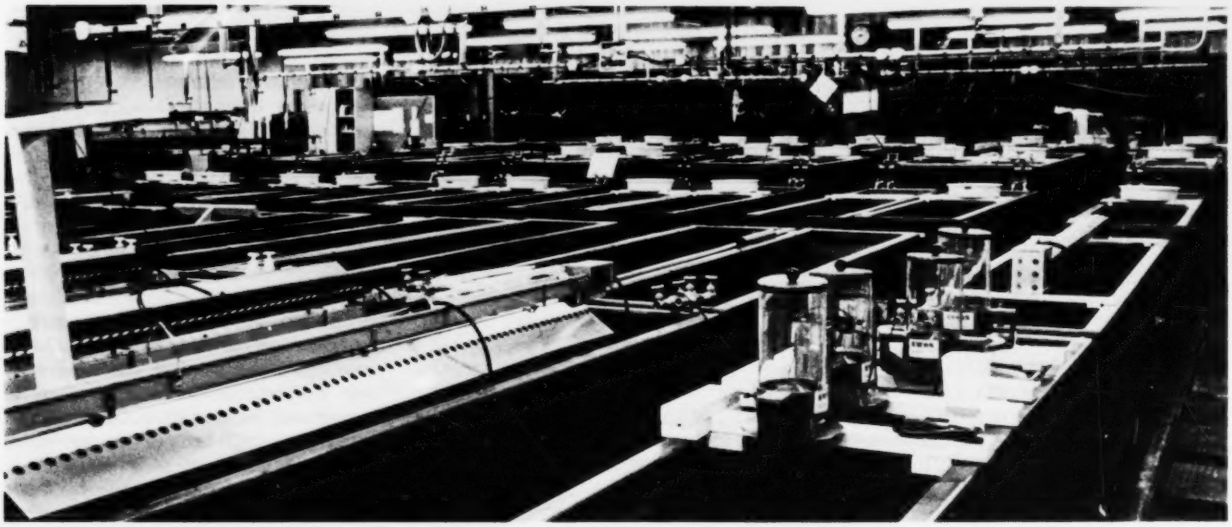
The Fish and Wildlife Service's newest research installation—the National Fishery Research and Development Laboratory at Wellsboro, Pennsylvania—has officially opened its doors.

In ceremonies on September 8 in the crossroads community of Asaph, several miles west of Wellsboro, Dr. Robert S. Cook, deputy director of the Fish and Wildlife Service, and Pennsylvania Representative Joseph M. McDade joined to officially open the new 33,000-square foot laboratory building.

Research into the development of intensive culture techniques for coolwater species of fish, such as walleye, muskellunge, shad, and pike, will be the basic mission of the new lab, according to director Dr. Roger Lee Herman. Studies will emphasize the effects of intensive culture on the physiological and nutritional health of fish. In addition, problems in the culture of other important species, such as Atlantic salmon, will also be investigated.

The main laboratory building contains a dry lab and several wet labs, administrative offices, a conference room, and a library that boasts computer hookups with nearby Mansfield State College and the National Fisheries Center—Leetown for literature searches.

—Alan Levitt
Office of Current Information



Service Management Plan Launched

The Fish and Wildlife Service's first comprehensive management plan to assure effective conservation of the Nation's fish and wildlife resources in the 1980's has been launched.

"Rapidly changing social and economic forces have made fish, wildlife, and their habitat increasingly vulnerable to losses, as an expanding human population continues to put pressure on diminishing resources," said Director Lynn Greenwalt. "The Service's challenge is clear: if we expect to conserve our Nation's fish and wildlife resources for future generations, we must anticipate change and respond with efficient management strategies."

The new Service Management Plan (SMP) is a broad-based document that sets the Service's general course of action for the next decade, laying the foundation for planning and managing all agency activities. It serves as the basis for more specific management plans (program management documents) and ensuing budgets for Service programs.

"Guided by this plan, we can foresee changing needs of fish and wildlife resources, and take positive action to deal with major problems affecting these resources. Also, ongoing programs will benefit from clear direction toward achieving national goals," said Greenwalt.

Noting that increased competition for both renewable and nonrenewable resources dictates more intensive management of fish and wildlife, Greenwalt emphasized that the SMP—the agency's first planning document to encompass all its programs—will provide responsive management by providing initial guidance.

The document, intended for Fish and Wildlife managers and the public, serves as a blueprint to the workings of the Service. It defines the Service's mission and lists program goals. Policies are described for fish and wildlife management, operations, and planning and decisionmaking processes. Strategies are outlined for ongoing activities, as well as identifying major resource problems and setting priorities to efficiently deal with them.

Outstanding features of the plan include: identification of socioeconomic factors that may influence the Service's overall planning process; the plan's focus on the most critical problems affecting fish and wildlife ("Important Resource Problems"); and recognition of broader public involvement in fish and wildlife issues.

Potential threats to the Nation's fish and wildlife resources are forecast by socio-economic trends discussed in the plan. For instance, development—particularly in the West where many of the Nation's energy resources are located—will significantly increase demand for water. Yet adequate water must be assured to maintain essential habitat for fish and wildlife.

The Service has developed the innovative IRP process for promoting a better understanding of important resource issues and identifying where they are most acute. This list of 78 IRPs ranges from depleted stocks of steelhead trout and salmon in the Northwest's Columbia River Basin to endangered species in the Florida wetlands (see "Important Resource Problems Ranked As Service's Guide to National Needs," *Fish and Wildlife News,* December 1979—January 1980 issue.)

Program Management Documents (PMDs) reflect the general guidance of the Service Management Plan but set forth more specific policies and strategies by which programs can work toward Service goals. A document has been developed for each Service program or set of similar programs. IRPs are listed in the appropriate PMDs.

Resource problems are often the joint responsibility of several Service areas; for instance, both Endangered Species and Habitat Preservation contribute toward restoration of the bald eagle. The SMP calls for greater intraagency cooperation to achieve goals while eliminating possible duplication of effort.

Service officials, recognizing the critical need for employees to understand these planning documents, have begun holding briefing sessions with Washington Office managers, and have started scheduling meetings with field personnel. An informative audio-visual presentation, "Planning for the Future," has been produced which explains the plan's importance to the Service. After managers are briefed, the presentation will be made available to other personnel, as well as outside groups that have a high level of interest in the Service's work.

—Joy Davis
Office of Current Information

Managers Sharpen Skills in Executive Development Program

Joe Plehuta
Division of Personnel
Management and
Organization
Washington Office

"It clearly has been an eye-opener as to how the Fish and Wildlife Service functions and the potential roles I may play. The Service is a changing agency, more so than I ever imagined from the field perspective. There exists a driving force, a commitment, to address the Service's mission with increased effectiveness. I expect this perspective will be expanded as I continue to seek out niches to be part of the effort."

John Wolflin, Ecological Services biologist from Region 3, is referring to the Executive and Manager Development Program, successor to the Interior Department's Departmental Manager Development Program.

Since 1949, more than 1,000 employees have preceded Wolflin in the program, which is designed to seek out the Department's most promising managers and provide them with further career development through a first-hand look at top management in the Washington Office. Upon completion of the program, and with additional management experience, they fill many senior level career management positions.

The program is open to all Fish and Wildlife Service career employees who have completed at least 3 years of service, are in grades GS-12-14, and are interested in improving their management abilities and skills. Regional Offices screen each year's crop of applicants, from which nominations are sent to the Department for selection. The program covers a 10-month introductory phase, followed by an additional year in the Washington Office.

The program includes structured

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Fisheries Academy Enrolls First Class in New Facility

George Gutsell
Writer-Editor
National Fisheries Center—
Leetown

photo by H. Monte Stuckey

Outside the door to the new Fisheries Academy at Leetown, West Virginia, the first class of biologists to begin advanced aquaculture classes in the facility pose with (from far left) Wendell S. Ogden, Academy superintendent; Charles A. Rodgers, course leader; Donald G. Kuntzelman, course supervisor; and (kneeling) John Leonard, staff specialist with the Division of Hatcheries and Fishery Resource Management, and William Daugherty, chief of the new division. Daugherty and Leonard served as instructors for the first class.

Twelve fishery biologists from the United States and two from foreign countries, and a college professor have begun 9 months of intensive aquaculture training at Leetown's new Fisheries Academy.

The fish hatchery manager's course, comparable to graduate-level university study, is designed to prepare promising fishery biologists for supervisory roles in fish culture. The course is the first comprehensive training program encompassing warm, cool and coldwater fish culture to be offered in the United States, including the academic community.

Under the supervision of Wendell S. Ogden, academy superintendent, and Donald G. Kuntzelman, academy course leader, the trainees will receive instruction from more than 40 of the top fishery experts from throughout the country, including Leetown's professional staff.

The course includes the latest culture techniques for more than 16 species of sport and food fish, as well as forage, exotic, and endangered species. Students will also receive training in management and administration. In addition to fish culture aspects of the course, trainees will study other forms of aquatic life, water quality, environmental influences, aquatic chemicals, and physical facilities.

This is the first class to use the Service's new Fisheries Academy building, which was completed and occupied several months ago. The building, including laboratories, classrooms, offices, and audio-visual facilities, is located near the hatchery, ponds, streams, and research facilities that will be used in the students' training. All of the trainees attending the Leetown course are renting local housing and many are accompanied by their families.

In addition to this course, which ends on May 29, the Academy offers various extension courses at numerous sites throughout the country. Eighteen of these short courses are currently scheduled under the direction of course leaders Dr. Richard S. Wydoski, Charles A. Rodgers, and S. Lee Emery.

Although the new academy now consolidates and coordinates fishery training activities in the United States, the first Federal fishery school in the United States was held at Leetown in 1941. In the years that followed, principally under the direction of the laboratory staff, hundreds of U.S. and foreign fishery workers have studied or trained at the scientific complex.

The new class of students includes Stephen Brimm, Allegheny NFH; Bruce Jenson, Pittsford NFH; Thomas R. Bender, Jr., Pennsylvania Benner Spring Fish Research Station; Richard Nehrling, Wytheville NFH; Richard D. MacFarlane, Rockland (N.Y.) Community College; Willie Booker, Hebron NFH; Jack Jones, Edenton NFH; Dwayne Miller, Valley City NFH; Buddy L. Jensen, Dexter NFH; John Lemon, Leadville NFH; Stephen Pastor, Lake Mills NFH; James Wencker, Tishomingo NFH; Arnold Rakes, Cohutta NFH; David Cole, Pisgah Forest NFH; and Mrs. Lourdes A. Dureza, research assistant, University of the Philippines, Iloilo City, Philippines.

Development

cont. from p. 4

seminars on management subjects and rotational assignments which the participants arrange through their advisors. A natural resources seminar is also held toward the end of the 10-month program.

As one of the Interior's best vehicles for women and minorities, among others, to move into a variety of management and staff positions, the program has enabled many employees to strengthen their management skills and abilities, as well as expand their career goals. Many of the Fish and Wildlife Service's top and mid-level managers are graduates of the program, and some have progressed to the higher management positions in the Department.

Says Ken Russell, wildlife co-op unit leader from Colorado, "The program thus far has been a comprehensive sampling and overview of the activities of the Service and where it fits into the overall government structure."

Other participants in the Service's portion of the program this year are Stephanie J. Caswell, landscape architect in Refuges, Region 5; Jefferson L. Fountain, area refuge supervisor, Region 6; Pat A. Langley, personnel management specialist, Region 3; and Yvonne Weber, wildlife biologist at the Western Energy and Land Use Team, Region 6.

PUERTO RICO:
Island Management a Unique Refuge Experience

The front-page map in the December 1979—January 1980 issue of Fish and Wildlife News *showing the distribution of "Important Resource Problems" across the country omitted two unique areas of the Nation in which the Fish and Wildlife Service has some "out-of-the-mainstream" management responsibilities: Puerto Rico and the Virgin Islands.*

Caribbean Islands Refuge manager Sean Furniss describes some of the problems he faces in an area of the country that is often taken for granted by Service employees in the following article.

Sean Furniss
Refuge Manager
Caribbean Islands National
Wildlife Refuge

Under the warmth of the tropical sun, surrounded by the clear, warm waters of the Atlantic Ocean and the Caribbean Sea, lie some of the oldest and newest units of the National Wildlife Refuge System. Included in the Caribbean Islands National Wildlife Refuge are five units located within a 250-mile by 50-mile area, separated by a full day's travel.

All of the refuges are located on or near densely populated islands. The Cabo Rojo Refuge consists of 587 acres in southwestern Puerto Rico. Desecheo is a rugged 360-acre volcanic island situated 14 miles off the northwest coast of Puerto Rico. Culebra totals 702 acres and is made up of two large islands and about 25 small islands around the island of Culebra, 19 miles off the northeastern coast of Puerto Rico. Thirty-six-acre Buck Island is located just 2 miles southeast of the busy, tourist-oriented city of Charlotte Amalie, St. Thomas, in the Virgin Islands. The other Virgin Islands' refuge is Green Cay, 14 acres that lie a quarter-mile from the north coast of St. Croix.

These five refuges are as diverse in their problems and management needs as they are spread apart in location.

The Cabo Rojo is the site of a former CIA radio monitoring station. One of the items the CIA left behind was a 42-room building which currently houses refuge headquarters and has the potential of being an extraordinary environmental education center. The primary wildlife management goal in this area is the enhancement of habitat for the endangered yellow-shouldered blackbird.

Desecheo provides habitat to three native species of lizards. The island was declared a refuge in 1912 for the protection of migratory seabirds and the native forest. It was transferred to the Government of Puerto Rico in 1937, then to the Department of War in 1940. The island was used intermittently as a bombing range until it was transferred to the National Institutes of Health in 1964. During the time the Institutes managed the island, a colony of 56 Rhesus monkeys was introduced. The creation of this colony (including off-

photos by Sean Furniss

Quolmie Greenaway (left), technician with the Commonwealth of Dominica's forestry department, assists Service endangered species biologist Jim Wiley and wife Beth in tern banding at Culebra National Wildlife Refuge. Top of page, Culebrita Island, the only area in the refuge where sea turtles nest.

spring of the original animals), as well as the earlier bombing, egging, and poaching, have all contributed to a major decline in the seabird colonies on Desecheo.

Culebra was established in 1909. The refuge was under the primary control of the Navy until it withdrew in 1972. An agreement signed by the Secretary of the Interior and the Governor of Puerto Rico in October 1973 may result in the removal of the 265-acre island of Culebrita from the refuge, the addition of 776 acres on the island of Culebra, and the transfer of 1,165 acres to the Commonwealth. The value of the Culebra Refuge lies in the large colonies of seabirds, its remnant stands of native forests, and sea turtle nesting habitat.

Buck Island was acquired in 1969 for migratory bird habitat when the Navy gave up its part of the island. The wreck of the *Cartanser Senior* was recently moved to the waters off Buck Island, making the area very popular with local and visiting divers.

Green Cay is the newest of the Caribbean refuges. It was purchased in 1977 to protect 14 of the remaining 18 acres of habitat for the endangered St. Croix ground lizard. The introduction of the mongoose in 1884 caused the lizard's extinction on the island of St. Croix itself.

First Refuge Manager

In late July 1978, 69 years after the establishment of the first Caribbean refuge, the first manager arrived in Puerto Rico.

The Caribbean provides challenges few refuge managers will find in the States. The ability to speak Spanish is a necessity. Our refuges use both English and Spanish language boundary signs, refuge leaflets must be prepared in the bilingual format, and official correspondence in Spanish needs an English translation if records are needed in the Jacksonville Area Office or the Atlanta Regional Office.

Public meetings in Puerto Rico are conducted in Spanish, so there is a need to be able to make an understandable presentation in Spanish, as well as understand the comments being made. While many people in Puerto Rico speak English, there *are* people who speak only Spanish.

Then too, there are times when some people find it convenient not to understand English. For example, upon our arrival at Cabo Rojo, we found the local residents in the habit of putting their animals—everything from cattle, horses, and goats to fighting cocks, guinea fowl, and turkeys—onto the refuge to graze and forage. When each owner was visited to explain that this would no longer be allowed and that fences were soon to be repaired, some language difficulties suddenly arose. Yet the same people who said they couldn't understand English suddenly became very fluent when protesting over the fence repairs that they felt would trap their animals inside the refuge!

The refuge staff (a manager and an assistant manager), with the assistance of the YACC and YCC, face a wide variety of tasks at the moment. Managing the five refuge units presents a real opportunity to test one's organizational skills. This is especially true because of the lack of development plans for any of the refuges at the moment.

Buck Island, topped by the Buck Island lighthouse.

The refuge staff also provides wildlife management assistance to the Army and Navy under the Sikes Act, conducts surveys and patrols on three non-Service areas, responds to animal damage problems, participates in the Environmental Contaminant Response Team, works on the development of an environmental education program for Puerto Rico and the Virgin Islands, and provides assistance to other Service divisions in the Caribbean when possible.

We have been working for 2 years setting up general refuge administrative procedures and "becoming known" both within the Fish and Wildlife Service and the community at large. This effort is designed to increase the awareness of the Service's presence in the Caribbean among both employees and residents.

Recently an article in a Puerto Rican newspaper stated that the "old radio station" was deserted and was to be used as a refugee center. We reminded the newspaper and the public that is is now the Cabo Rojo *Refuge*.

In the long run, the awareness and support of our Puerto Rican and Virgin Island neighbors will make our programs a success.

Agency Support

Fortunately, the awareness and support of people in the Jacksonville and Atlanta offices, as well as Washington, have brought about a recognition of some of the problems unique to the Caribbean. Puerto Rico and the Virgin Islands are scheduled to receive increased funds for environmental education programs. We hope such programs will help alleviate the general lack of environmental awareness among the people of the islands.

Programs on the Caribbean refuges are possibly as demanding and as important to the conservation of the Nation's ecosystems as are programs in any of the 50 states. We're hoping for acceptance of the Caribbean as an equal partner in the National Wildlife Refuge System, combined with an awareness by all Service employees of its cultural differences and unique problems.

With an island population exceeding 900 people per square mile, and with 97 of the 105 species and subspecies that have become extinct

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PROGRAM BRIEFS

Environment

Species maps. The future design and siting of coastal developments and major energy projects along the Eastern Seaboard may be significantly influenced with the use of a new inventory and map series of fish and wildlife species and other ecological resources recently compiled by the Service's National Coastal Ecosystems Team.

The "Atlantic Coast Ecological Inventory" is the first comprehensive series of maps of natural resources on the Atlantic Coast and is an important new planning tool for governments and industries that contemplate major developments in the coastal zone. A similar inventory of Pacific Coast resources is now underway by the Team and its parent Office of Biological Services. It is scheduled to be completed by July 1981.

Wildlife Resources

Auto hunt. Sportsmen with certain disabilities will be allowed to hunt migratory game birds from stationary motor vehicles under an amended hunting regulation announced in the October 23 *Federal Register*.

Paraplegic hunters and hunters missing one or both legs may use stationary motor vehicles—including cars, vans, and pick-up trucks—to enable them to participate in the sport. However, the change will not supersede existing laws or other restrictions which conflict with the ruling, such as limited vehicle access on some National Wildlife Refuges.

By expanding hunting opportunities under the Migratory Bird Treaty Act to include these disabled sportsmen, the Service is making it possible for States to broaden their laws.

Providing handicapped hunters such recreational opportunities has caught the public's attention, and the Service has conducted experimental hunts. In the fall of 1978, the Service allowed disabled sportsmen to hunt sika and white-tailed deer on Chincoteague National Wildlife Refuge through a special program sponsored by the Service and the Disabled Sportsmen of America. The hunting program, conducted to reduce an overpopulation of deer on the refuge, served as a model for providing assistance, whenever possible, to handicapped hunters.

Guide guilty. Fairbanks big game guide Daniel J. Rodey pleaded guilty and was sentenced on three counts of transporting illegally-taken game in September after being charged with 10 counts of violating the Lacey Act, which prohibits interstate and international transportation of game taken in violation of Federal, State, or local law. Rodey was accused of shipping trophies from six grizzlies, three caribou, and a moose taken without the required permits in his guiding area near the south fork of the Koyukuk River a year earlier.

The charges against Rodey were filed in June in U.S. District Court as a result of an 8-month cooperative investigation by the Fish and Wildlife Service and the State Division of Fish and Wildlife Protection.

Rodey pleaded guilty to three counts of transporting illegally taken grizzly bears. The other seven counts were dismissed by agreement with the U.S. Attorney's Office.

Rodey received a $10,000 fine and was sentenced to three 1-year prison terms which were suspended pending the successful completion of 5 years probation. In addition, Rodey forfeited his Supercub, valued at approximately $25,000.

Alabammy bound. In one of the biggest alligator busts in recent history, five Alabama men pleaded guilty in late September to unlawful sale and possession of American alligator hides valued at $40,000 following an undercover investigation by the Fish and Wildlife Service's Law Enforcement Division.

On September 26, 1980, in Federal Court in Mobile, two brothers, Leslie and Alfred Buzbee, and their sons Leslie E. ("Bubba"), Dennis, and Johnnie Buzbee, were fined a total of $7,000 for violating the Endangered Species Act and the Lacey Act in connection with their illegal commercialization of protected alligators. They were placed on probation for 2 years and it was ordered that the money from their fines go to a Service undercover fund for future operations.

The group admitted to killing alligators in Alabama, where they are Federally protected, and transporting the hides across State lines for sale. The Buzbees said they hunted the alligators at night, using flashlights to blind the animals and .22 caliber pistols to kill them. More than 550 alligator hides were involved in two transactions between the Buzbees and Federal undercover agents, who posed as traders in contraband items such as stolen cars, outboard motors, and drugs.

Evidence against the Buzbees included transcripts of telephone conversations and a videotape recording of their August 25 dealing with Service special agents.

Pelican rap. Illegally possessing and shipping a brown pelican in interstate commerce in violation of the Endangered Species Act have cost a Puerto Rican physician, who is also a part-time taxidermist, $4,000.

The doctor, Hector A. Correa, pleaded guilty on October 1 to the two Endangered Species Act violations, in exchange for the Government's agreement to drop seven charges under the Migratory Bird Treaty Act, including three felony counts of illegal sale and barter. Correa had been indicted on August 21 on nine counts of Federal wildlife law violations. He paid the fine on October 10.

According to the Government's case, Correa entered into three commercial wildlife transactions from Puerto Rico by mail with an undercover agent of the Fish and Wildlife Service. Correa sold the agent 12 Federally protected migratory birds in February 1980. In April, he bartered six other birds for legal species such as raccoon and mink. In June, he shipped the brown pelican in exchange for the skin of a fisher, a small mammal. Since the pelican had been illegally taken within the United States, Correa possessed it in violation of the Endangered Species Act. His commercial shipment in interstate commerce constituted the second violation.

Eagle shooting. A Midwest feed and grain mill worker who shot a bald eagle while he was deer hunting in Kansas last December has been fined $1,500, had all hunting priviledges suspended, and has been placed on probation for 2 years for violating the Eagle Protection Act.

Gene Allan York, 19, of Asbury, Missouri, received the sentence on September 15, in Wichita, Kansas. He was allowed to substitute 200 hours of volunteer work at the Pittsburg, Kansas, Humane Society for $1,000 of the fine. He completed the work on October 8 by building fences and mending cages.

York at first said he had accidentally struck the bird with his truck. During a jury trial in June, he admitted shooting the eagle but said he thought it was a buzzard when he shot it at a distance of about 100 yards with a 25-06 rifle equipped with a telescopic sight.

Bald eagles are also protected by the Endangered Species Act and the Migratory Bird Treaty Act. Buzzards and other migratory birds are protected by both Federal and State law.

The Service estimates that between 20 and 50 dead bald and golden eagles are turned in each year in Kansas. Few come with any clues that might help in solving their cases.

Equal Opportunity

Business up, employment slower. The Service awarded over $9 million in Federal contracts to socially and economically disadvantaged businesses for construction, services, and research during the fiscal year ending September 30—the third consecutive year the agency has surpassed its Minority Business Enterprise goal.

There has also been some progress in Affirmative Action employment, although a mid-year Federal hiring freeze contributed to the Service's failure to meet its goals. Despite the freeze, the agency achieved a net increase of 20 minorities in permanent full-time positions, including a net increase of 17 minorities in GS-9 or above positions. The Service counted a net increase of 22 white women in mid-level positions and above, although it showed an overall net decrease of 28 white women at all levels. (The 1980 Affirmative Action goal was a net increase of 15 minorities and 9 white women in permanent full-time positions at all levels.)

"We were proud that we were on target for meeting our minority hiring goal just one month before the end of the fiscal year, but we experienced a large year-end turnover," said Director Lynn Greenwalt.

The Service's Minority Business Enterprise goal for 1980 was set at $8 million—10 percent of its estimated procurement budget. By the end of the fiscal year, the Service had awarded $10,788,830 (135 percent of its goal) to qualifying firms.

Major contracts included construction of an administration building at Bombay Hook National Wildlife Refuge, earthen dams for fish ponds at the Frankfort, Kentucky, National Fish Hatchery, and headquarters buildings at Swan Lake and Squaw Creek refuges.

Fishery Resources

Cui-ui sucker. Fish passage facilities to permit adult cui-ui to pass from Pyramid Lake to the Truckee River in Nevada have been modified with remarkable success. A design change in each of the three 120-foot ladders permitted 5,172 adult cui-ui to negotiate the 3-mile canal and ascend into the Truckee River this year, compared to 146 fish last year. The discovery of spent females in the Truckee also documents the first record of natural spawning in the river in recent years. The goal of this effort is to remove the cui-ui from the Endangered Species List and allow Indians to harvest a species that has played an important role in the culture of the tribe.

New fishery site. The Service has taken steps to acquire surplus property on Wadmalaw Island, 25 miles south of Charleston, South Carolina, from the Environmental Protection Agency, that had been used to perform toxicology investigations. The 31-acre facility will operate as a substation of the Orangeburg National Fish Hatchery. Since both fresh and saltwater are available, this facility has good potential to support the anadromous fishery program. Activities involving production, management, development, and law enforcement are planned.

Species workshops. The Service's Division of Hatcheries and Fishery Resource Management is sponsoring a series of workshops on selected species of fish. Each workshop offers the opportunity to exchange information and present findings about the featured species. Workshops have been conducted in July on sturgeon at the National Fisheries Center—Leetown and in August on striped bass at Selma, Alabama. Candidate species for future workshops may include shad, amur, and related hybrids. Other suggestions are being welcomed.

European award. Dr. S. F. Snieszko, "dean" of United States fish pathologists and former director of the Eastern Fish Disease Laboratory (now the National Fish Health Research Laboratory), has been elected an honorary member of the European Association of Fish Pathologists.

He was the only American nominee and one of only three scientists from throughout the world to be honored by the new organization, made up of fish pathologists from all Western European countries and others in Eastern Europe.

Snieszko, who joined the Leetown scientific staff in 1946 and who still serves as a senior scientist, has had a long and distinguished research and administrative career.

During his lengthy tenure as laboratory director, Snieszko personally conducted and directed research into numerous areas of fish health, developed and advanced various scientific techniques, and initiated innovative training programs that greatly contributed to the success of fishery efforts at Leetown, throughout the United States, and in many foreign countries.

An author and editor of numerous scientific papers, books, and other publications, Snieszko is considered one of the world's foremost authorities on fish diseases.

Puerto Rico

cont. from p. 7

through the last 290 years being residents of islands around the globe, we cannot wait another 69 years for the Caribbean to get the recognition it deserves. On the list of "Important Resource Problems," the Caribbean was ranked 69th, though we hope for higher recognition for area problems.

The Caribbean presents many challenges and opportunities to those who choose to accept them *"y como dicen el personal de los Refugios Nacionales de Vida Silvestre del Caribe: 'Estamos trabajando duro y con fuerza. Si quiere mas informacion, escribanos o visitenos. Con placer mostramos lo que tenemos." ("We're working hard and with effort. If you want more information, write or visit us and, with pleasure, we'll show you what we have.")*

"World's Rooftop" Holds Vanishing Wildlife, Faces Critical Problems

Endangered Species Zoologist Confers with Chinese on Tibet's Future

Of anyone in the Fish and Wildlife Service, Dick Mitchell of the Office of Endangered Species probably has the most unusual travel vouchers.

For part of this past May and June, Mitchell was in China, conferring with endangered species experts at an international symposium and wandering the back roads of Tibet, where the wildlife problems are often as strikingly obvious as the overgrazed hillsides that are an omnipresent backdrop.

Mitchell has summarized his observations from the "Rooftop of the World" in this armchair narrative for readers of *Fish and Wildlife News.*

Dr. Richard M. Mitchell
Zoologist
Office of Endangered Species
Washington, D.C.

The Academy Sinica (Academy of Science) of the People's Republic of China hosted the first Symposium on the Qinghai-Xizang (Tibet) Plateau this summer in Peking and I was one of five foreign zoologists lucky enough to be invited to attend the symposium and an accompanying 15-day field trip to Tibet.

To take advantage of the existing knowledge on the Tibetan Plateau, 77 foreign scientists from 18 countries were invited to read their papers and to exchange ideas with approximately 350 Chinese scholars. The Chinese believed that this symposium would be helpful in unveiling the geological mysteries of this unique earth structure plus increase the exchange of information on the flora and fauna of the plateau.

In 1965-66 and 1967-70, I had conducted a faunal survey of the Kingdom of Nepal and had published a comprehensive checklist on 130 species of terrestrial mammals. My invitation came, in part, because of my field study in Nepal, the Chinese wishing me and others to exchange information with their leading zoologists. An indication of the importance the Chinese attached to this meeting became apparent when a banquet in our honor was hosted by Vice Premier Deng Xiaoping in the "Great Hall of the People."

"Standing on top of the world"—Gyaco La Pass, at 17,700 feet, is the highest mountain road pass in the world.

My wife, Marleane, and my children Rana and Jai accompanied me on the trip, joining me for the 2,000-mile train trip from Hong Kong to Peking. Rana and Jai became the first Western children to visit and travel throughout Tibet.

On our journey, there were no restrictions and we were free to travel and photograph whatever we pleased. Controls were very subtle and we did not see any armed police or soldiers throughout our trip.

Interested in Conservation

The Chinese are very interested in wildlife conservation and the establishment of a national park system. China and the Department of the Interior have reached an agreement to work with endangered species in that country, expected to be officially signed this year. Already the Chinese have agreed to the joint panda study with the World Wildlife Fund. Also Dr. Maurice Hornocker of our Idaho Cooperative Wildlife Research Unit has been invited back to China in December to search for potential study sites on the Siberian tiger. China has agreed to ratify the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), and they have sent two scientists to join the Survival Service Commission. These two scientists, Drs. Wang Sung and Chao Ching-Ju, were in Washington, D.C., in October to meet with Service personnel and visit the Smithsonian Institution.

Many discussions were held with Chinese zoologists on the status of endangered and threatened species in China and Tibet. Drs. George Schaller, of the New York Zoological Society, and S. Dillon Ripley, of the Smithsonian Institution emphasized the need for joint cooperation among agencies on all endangered species programs in China.

Our symposium closed on June 1 with the Chinese again stressing their interest in cooperating with Western nations for the exchange of scientists and ideas. The next day the scientific group of 100 westerners and 150 Chinese flew to Chengtu, Sichuan Province, to spend the day and visit the Chengtu Zoo. From Chengtu, we then flew to Gongga airport, located 90 kilometers from Lhasa, the capital of Tibet. That evening, we were feeling the effects of the high altitude. Over 60 percent of the group suffered headaches, nausea, and lack of appetite. Five days were spend in Lhasa adjusting to the altitude. Each day, excursions were taken to examine various geological formations.

Fifteen days were spent touring Tibet as we covered nearly 2,000 kilometers. Only three species of mammals and 62 species of birds were observed. Five passes over 16,000 feet in elevation were crossed Human pressure and livestock grazing have severely damaged this unique and fragile ecosystem. The distribution and numbers of many endangered species of mammals are limited in Tibet. The large game mammals (snow leopard, yak, wild ass, blue sheep, musk deer, Tibetan

photos by Richard Mitchell

Toyota mini-buses outside Tibet's Lhasa Guest House transported Mitchell and colleagues on their 15-day trip.

antelope, Tibetan gazelle, and the nayan, also known as the Hodgson's bighorn sheep) are in serious trouble and could become extinct within the next decade.

The steep southern slopes of the Himalayas have been completely stripped of their shrubby montane vegetation. Large herds of sheep and goats graze the barren hillsides. Winter wheat and barley are grown in the valleys and the area is completely devoid of wildlife.

On June 7, we left for Xigaze, 341 kilometers south of Lhasa. The trip took us through Quxu, as the road wound its way up the Kamba La Pass at the 4,705 meter mark. Shrubby steppe and alpine meadows dot the landscape. Several pikas and marmots were seen.

At Kamba La Pass, one looks down on Lake Yamzhog Yumco. This lake, lying at an elevation of 4,441 meters, is nearly 1,300 kilometers long and contained large concentrations of waterfowl. From Yamzhog Yumco, the road wound steeply up the Karila Pass (5,045 meters). The pass is part of a morainic platform in an ancient glaciated u-valley bordered by lateral moraines. Numerous hanging glaciers flourish and the area looked promising for wild yak, blue sheep, and the nayan.

From Kamba Pass, we descended to a major trade center, Gyangze, located 4,000 meters above sea level. The broad valley around Gyangze is heavily farmed and vegetation is sparse. The rocky soils support shrubby steppe types of vegetation and trees are very rare. Willows and poplars have been planted along the water courses.

Three days were spent in Xigaze, the second largest city in Tibet, before our group departed for Tingri. West of Xigaze, the road crossed several small rivers and low passes before reaching Lhaze. To the west of Lhaze rises the Lhagoi Kangri Range. Alpine meadows prevail due to a colder, slightly moist climate. The highest pass on the Lhasa road, Gyaco La (5,250 meters), represents the remnants of an ancient peneplain. Tingri is situated on a tectonic basin of the upper stretch of the Pum Qu Valley. This tectonic basin borders the Himalayas on the south, and the immediate surrounding mountains average over 5,000 meters. One day was spent in Tingri before journeying southward to Zham.

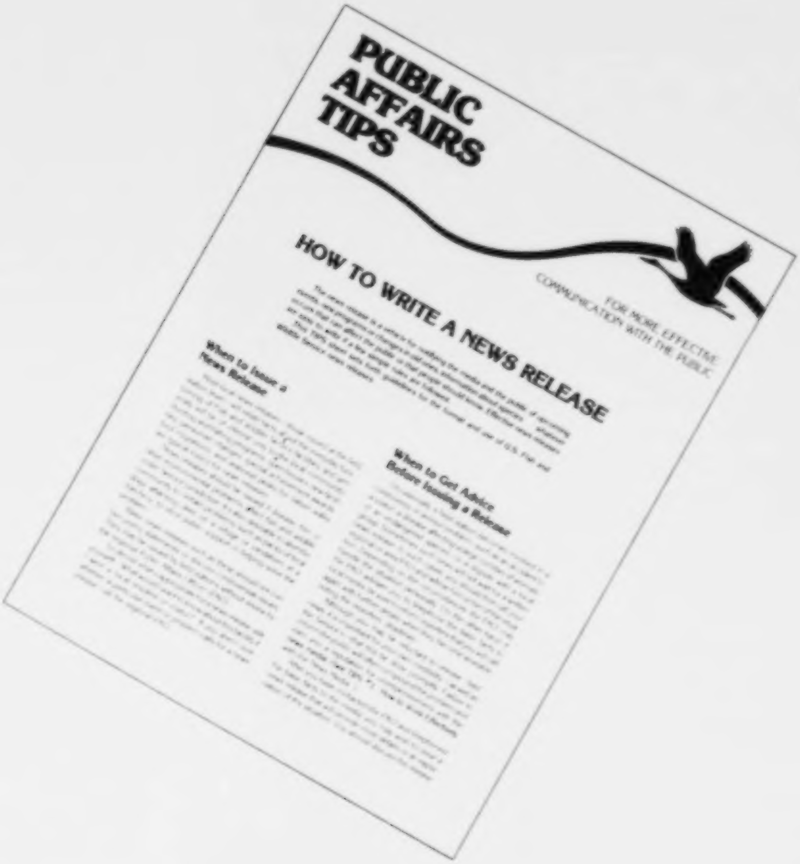
Jing-Xi Military Compound in Peking, where symposium guests were housed.

Further south, we traveled through the Bo-Qu Valley where the landscape changes rapidly. At Nyalam, the montane evergreen broad-leaf forest belt begins, and rhododendron is the major flowering plant. Zham lies 30 kilometers south of Nyalam and is a local trading post with Nepal. Subtropical forests surround Zham.

Three days were spent in Zham, and on our final day a plenary session was held. Our zoology group, chaired by Ripley, presented our observations on the plateau, based upon our travels. Around major population centers, Tibet is ecologically devoid of flora and fauna. It was sad to see the tremendous impact that humans have had on vegetation and wildlife. Many of the big-game animals have been totally eliminated. We recommended that the area from Nyalam to Zham be made into a national park. Also, we stressed the need for reforestation throughout the country and the need for conservation of wildlife.

The 1,600 students of the Xigaze District High School perform their morning calisthenics outdoors.

Take a Tip from the Fish and Wildlife Service . . .



PUBLIC AFFAIRS TIPS

FOR MORE EFFECTIVE COMMUNICATION WITH THE PUBLIC

HOW TO WRITE A NEWS RELEASE

When to Issue a News Release

When to Get Advice Before Issuing a Release

Fish and Wildlife field station managers are getting long-distance assistance in keeping their communities up-to-date on activities at refuges, hatcheries, laboratories, and other facilities with the Service's new "Public Affairs Tips" series produced by the Office of Current Information.

The series, designed to help field managers communicate more effectively with the public, will explain how basic information tools can be used, including news releases, radio/TV presentations, speeches, open houses, and exhibits. Individual "Tips" sheets offer guidelines on specific subjects and will be distributed through the regional offices on a regular basis.

The first "Tips" sheet, "How To Write A News Release," was recently distributed in a sturdy, eyecatching orange loose-leaf binder. By issuing consecutive "Tips" sheets one at a time, Current Information hopes to ensure that field staff will carefully study the practical information contained in each brief sheet. As each "Tips" is received, it can be inserted in the binder so that a comprehensive handbook will be compiled in the coming months.

"Public Affairs Tips" responds to the needs of Service personnel at over a thousand locations—some the scenes of Fish and Wildlife's most outstanding achievements. Each facility needs a staff member who can communicate effectively with the public. This series should be useful to all field staff involved in public information, regardless of previous experience and the varying needs at individual locations.

"We've entered a new decade in which the taxpayers are intensely interested in how we spend their dollars, and their right to know places public affairs high in the Service's priorities," says John Mattoon, Assistant Director—Public Affairs.

The next "Tips" sheet, scheduled for year-end distribution, will offer ideas on how radio—an important but often overlooked information vehicle—can be most effectively used. Others will include pointers on improving media relations, holding successful public meetings, and staging public ceremonies.

Field station managers are invited to offer their suggestions on subjects suitable for future "Public Affairs Tips" to Joy Davis, project officer, Office of Current Information, Washington. Field station managers who have not received the first "Tips" and the binder, or who have further questions about news releases, should contact a Regional or Area Office Public Affairs Officer.

Leetown Bridges Sino-Soviet Activities

photo by George Gutsell

Dr. Petr T. Galasun (left), of the Soviet Union, and Dr. Robert E. Putz, director of the National Fisheries Center, affix their signatures to a fisheries protocol agreement during ceremonies at Leetown, West Virginia. David W. McDaniel, assistant director, looks on.

NATIONAL FISH HEALTH
ESEARCH LABORATORY
S.FISH AND WILDLIFE SERVICE
DEPT. OF INTERIOR

photo by H. Monte Stuckey

Three aquaculture scientists from the People's Republic of China recently toured the National Fisheries Center—Leetown, their first stop on a 30-day visit to the United States.

Dr. Liu Tianjing, deputy director, and Drs. Yan Conghai and Zhang Liyan, researchers, of the Yellow Sea Fishery Research Institute, and Liu Ensheng, their interpreter, toured the Fisheries Academy, experimental hatchery, genetics section, and the National Fish Health Research Laboratory while at the Leetown aquaculture complex. They also observed video training techniques that were in progress at the center at the time.

Although Leetown has long been a focal point for international fishery research, this was the first visit by a People's Republic delegation. Director Dr. Robert E. Putz made a 22-day visit to China following diplomatic recognitions.

Pictured above (left to right) are Drs. Liyan, Conghai, assistant Leetown director David W. McDaniel, Dr. Tianjing, Benjamin Drucker of the National Marine Fisheries Service, and interpreter Ensheng.

George Gutsell
Writer-Editor
National Fisheries Center—
Leetown

The National Fisheries Center—Leetown, long involved in world scientific affairs, was the scene for yet another international event on September 5 when a history-making fisheries protocol agreement was negotiated between the United States and the Soviet Union.

The agreement, which will permit the exchange of fisheries specialists and information, and certain species of fish, was prepared in both English and Russian, and was signed by Dr. Robert E. Putz, Leetown director and head of the U.S. fisheries delegation, and Dr. Petr T. Galasun, director of the Ukrainian Research Institute for Fisheries, head of the Soviet delegation.

Signing the agreement followed several years of negotiations, including a trip to Russia by Putz last fall, and a recent 2-week tour of fisheries facilities in the United States by Galasun and Dr. Vera A. Musselius, chief of the Soviet Laboratory of Fish Pathology.

Others taking part in the signing ceremony were Gennadiy M. Chursin, Soviet Embassy fisheries attache, David W. McDaniel, assistant Leetown director, Dr. Blake F. Grant, Dr. S. F. Snieszko, and Dr. Kenneth E. Wolf of the Leetown staff, and Steven G. Kohl, of the Service's Office of International Affairs.

In addition to exchanges of personnel and information, the agreement permits exchanges of certain fishes for scientific purposes. We are particularly interested in sturgeon and the Soviets expressed interest in striped bass and genetically-developed rainbow trout. The Soviet scientists were also impressed by sophisticated technical equipment developed by U.S. fishery specialists.

The Soviet scientists, accompanied by Putz, toured Federal fishery installations during the previous 2 weeks, including Leetown, and private facilities, including southern commercial fish farms. The Fish Farming Experimental Station in Stuttgart, Arkansas, and the Southeastern Fish Cultural Laboratory in Marion, Alabama, both components of the Leetown Center, were among the facilities that were visited.

Closing the Circle: The "Nongame" Act

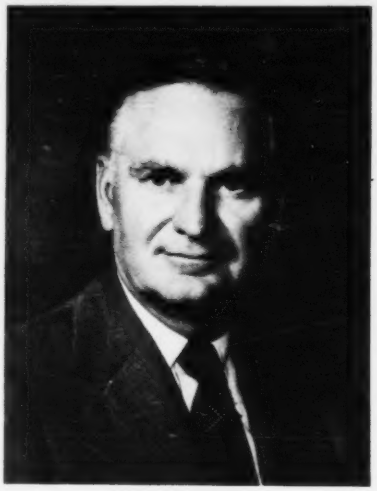
Daniel A. Poole, President, Wildlife Management Institute

Enactment this year of the Fish and Wildlife Conservation Act of 1980, popularly called the "Nongame Act," closes the circle on needed wildlife management authority and direction in the United States. For the first time, on a national basis, policy and law recognize the cultural, aesthetic, scientific, recreational, and economic values of all native fish and wildlife, not just certain categories or life forms.

The new law accords creatures not traditionally sought for food, fur, or sport equal consideration with those that are. Once-domestic animals, now feral, are excluded, thus not further complicating the wild horse and burro management problem. Marine mammals and endangered species, already subject to special legislation, would not be affected. Importantly, the law authorizes Federal cost-sharing as an inducement to the States for comprehensive fish and wildlife planning and for conducting approved programs—inventory, research, land acquisition, development and maintenance, law enforcement, extension, and public information—to help assure the well-being of nongame fish and wildlife.

While admittedly less than hoped for, particularly in the total appropriations authorized for apportionment to assenting States and the source of funding, the law can be improved and expanded in coming years. These shortcomings aside, it is a significant beginning.

The new law offers substantial opportunity for broadening the direction of wildlife management—a broadening that will be stimulated by the availability of Federal financial help to State agencies complying with its standards and requirements. Federal financial help is no less pertinent here than in any other situation—education, health care, law enforcement, or highways—where the national interest demands that an issue receive a higher lever of attention.



VIEWPOINT

Communication is the key to any successful human endeavor be it marriage, business, or government. Out of it grows understanding and a more realistic approach to our everyday tasks. Polarization on issues can only lead to greater misunderstanding.

Since our profession touches the lives of many people it is appropriate that we make a point of listening to those who both agree and disagree with us and test their ideas against our own. This VIEWPOINT column will appear periodically in an effort to initiate the kind of dialogue that is needed to enable us to better understand and serve our entire constituency — the American people.

From an organic standpoint, the new law offers few direct benefits to the U.S. Fish and Wildlife Service, that is, in the added perquisites that an agency looks for in new or expanded authority—more full-time, permanent employees, enhanced grade structure, and an increase in its budget base. In all likelihood, the program will be administered similar to, and perhaps within, the Federal Aid program. Authorized appropriations will increase the Service's actual operating budget only modestly, mostly because the amounts involved are modest to begin with. And aside from the amount the Service may retain to defray the cost of administering the program, the bulk of the annual appropriation is slated to pass to the States under a formula involving land area and population for comprehensive planning and approved work on a cost-shared basis.

The new act challenges the Fish and Wildlife Service to live up to its leadership potential by being what its title implies—of servive to fish and wildlife. Although the new act does not give the Service a "hands on" role in nongame fish and wildlife administration—it was neither intended for it to do so nor did the Service seek such a role—the vigor with which the Service undertakes to lead and coordinate this new authority will have a significant impact on the success of the program nationally and on other Service programs as well.

For example, a fully implemented nongame program will dovetail neatly with the Service's endangered species program. Despite its high merit and utter necessity, the endangered species program arises from a negative situation; its seeks to rescue animals once their populations are in difficulty. The nongame program's thrust is positive; it seeks to prevent animals from getting into dire straits in the first place—an important difference.

One feature of the law, which carries a 4-year authorization, requires that the Service study and report to Congress on potential new sources of funding. Although some interests urged Congress to require greater and more direct use for nongame purposes of monies currently received from the sale of hunting and fishing licenses, manufacturers' excise taxes on certain hunting and fishing equipment, and similar traditional sources, this sparked little support. To its credit, I believe, Congress did not find these arguments persuasive. As the testimony of the Service and State spokesmen made clear, no fish and wildlife agency has sufficient funding today to undertake all that it needs to do. The relatively fixed funds available to the agencies have been eroded seriously by inflation.

Congress took the view that funding for present programs should not be diluted, and chose instead to encourage thought on new sources of funds. It placed a ceiling of 10 percent on the amount of money that may come from traditional sources, and noted specifically that such sources are neither fully adequate nor appropriate for nongame purposes.

Some consideration was given to the imposition of new manufacturers' excise taxes on commercially processed wild bird foods, nesting boxes, bird baths, and related items. Mention also was made of taxing other currently untaxed items, such as binoculars, photographic equipment and designated outdoor recreational equipment. In the end, all were put aside, but not totally rejected, more in deference to the Nation's affliction by recession and inflation and the absence of firm revenue estimates than for lack of merit. These sources and others likely will be investigated by the Service.

photo by William C. Krantz

The programs and span of concern of State fish and wildlife agencies drew some unfavorable comments at the Congressional hearings when unqualified comparisons were drawn by work project title between the amount of money being invested nationally in "game" and "nongame" activities. Such comparisons grossly distort an ecological fact of life. It is a practical impossibility to acquire, develop, or maintain a property for big game, waterfowl, or other groups of "game" animals without benefiting many other species that occupy the same habitat types. As presented to Congressional committees, the "game" versus "nongame" argument presupposes that species live in a vacuum. Many millions of acres acquired, developed and maintained by the Service and State fish and wildlife agencies benefit all kinds of wildlife. One has only to look at the "species present" lists to verify this fact.

If there is validity in singling out the emphasis placed on animals prized for food, fur, or sport, it is that the benefits nongame species receive from such work usually are more frequently unplanned than deliberate. That is, the initial work plans seldom set forth steps to produce specific benefits for creatures not valued for food, fur, or sport. This is a valid criticism, and the required comprehensive planning provisions of the Nongame Act, as a prerequisite to funding eligibility, supported by the States, will help overcome it in the future. At the same time, it should be recognized that some States, presently too few in number, have launched or are initiating nongame programs.

The new Act also should help stimulate needed data collection to obtain broader knowledge of the distribution, movements, and population trends of various species and research involving their biology and ecology. Such new and better information and understanding, when woven into comprehensive work plans, should benefit all wild creatures to the extent that the State agencies are able to manage lands under their control and, even more importantly, to influence habitat conditions on the vastly larger acreages in other public and private lands.

Above all, wildlife advocates should recognize that "game" and "nongame" type programs are compatible. It need not be a case of "either/or." Properly integrated and implemented, comprehensive planning and programming will reflect the interest of Americans in wildlife of all kinds. The Service and the States must unify and build on this interest. Too frequently, unfortunately, there is a tendency, particularly by citizen groups, to dwell on minor differences rather than to solidify the major strengths of this interest.

photo by D. A. Spencer

The results of a recent New Jersey poll show the positive potential of a united approach. The purpose of the poll was to ascertain public reaction to authorization of a State income tax refund checkoff system as a means of helping to finance an expanded nongame program. Statistically designed to reflect the views of all New Jersey residents, the poll showed that 66 percent of those who strongly approve of hunting and 69 percent of those who strongly disapprove of hunting consider endangered species protection important. Seventy-two percent of the hunters and 73 percent of the nonhunters favor the income tax refund checkoff plan. Statistically, the two groups' support for wildlife is the same. The advantage of both interests working for a mutual objective is clear.

photo by Luther C. Goldman

In States where income tax checkoff programs are in place—Colorado (the first), Oregon, Minnesota, and Kentucky—results show the public's willingness to support nongame work. People want only the assurance that their contributions will be used for the purposes stated and will not be diverted to finance the social and other programs that consume such a large part of government expenditures these days. Other States presently are readying similar financing plans for the consideration of their legislatures. These State funds, used as matching money for Federal assistance under the new Nongame Act, will greatly expand the attention given to America's wildlife. Similarly, the prospect of Federal financial assistance also will spur some State legislatures into action.

As is the case in its administration of the Federal Aid in Fish and Wildlife Restoration programs, I am confident that the Service will do an equally solid job of implementing the Nongame Act in partnership with the States. Tremendous accomplishments have been achieved under the earlier two cooperative programs, both in direct benefits to native fish and wildlife and in advancing necessary understanding for the

cont. on p. 16

Three More Southern Refuges Slated

Three important Southern wildlife habitats notable for abundant fish and game, endangered wildlife, and vital migratory bird resting sites, are slated for inclusion in the National Wildlife Refuge System.

President Carter has signed legislation authorizing the establishment of Bon Secour Refuge near the mouth of Mobile Bay, Alabama, which encompasses several large tracts of barrier island habitat; Tensas River Refuge in northeast Louisiana, which will be purchased jointly by the Departments of the Army and Interior; and Bogue Chitto Refuge, a popular hunting and fishing area north of New Orleans that stretches into Mississippi. The Department of the Army has agreed to purchase 80 percent of the proposed Tensas River refuge lands to compensate for impacts on fish and wildlife caused by nearby Corps of Engineers projects.

These areas, which provide habitat for at least a dozen endangered species, have been vulnerable to agricultural and residential development. Construction of summer homes on the Alabama Gulf Coast has increased markedly in recent years, and little undisturbed coastal land remains. Forested wetlands along the Mississippi River Delta are being steadily drained, mainly for soybean production.

Tensas River and Bogue Chitto are both primarily bottomland hardwood forest habitat, one of the most productive types of wildlife habitat in North America. Of the 24 million acres of bottomland forests thought to have once existed along the Mississippi River from Illinois to coastal Louisiana, fewer than 5 million acres exist today. The remaining forested wetlands are being cleared at the rate of up to 300,000 acres annually.

Alabama's Bon Secour Refuge will preserve a dynamic but fragile barrier island habitat. The four-unit refuge will total nearly 10,000 acres of beach dunes and backshore wildlife habitats in Mobile and Baldwin counties. The Perdue and Little Point Clear units on Ft. Morgan peninsula, a unique barrier spit, contain some 5,600 acres of beach, dunes, uplands, wetlands, salt marsh, and open water. The Little Dauphin Island unit encompasses about 300 acres of beach, marsh, and upland habitats. The 4,000-acre Skunk Bayou unit on the mainland is mostly wetland habitat.

—Joy Davis
Office of Current Information

Fishing Lure

The temptation to wet a line often gets the best of all of us.

Pierre Area Office manager Jim Salyer recently stopped by Spearfish Fisheries Center on a visit and noticed three youngsters avidly peering into the center's display pond.

Anticipating a tasty tidbit, fish in the pond have become attracted to the frequent human visitors who stop by.

Salyer noticed a fishing line casually dangling from the youngsters' hands. Asked if he now allowed fishing in the display pond, station director Arden Trandahl immediately hot-footed it down the road to conduct a quick creel census. He uncovered four fish—one a 5-pounder. Not bad for a piece of filament and a salmon egg!

After chats with Trandahl and their parents, the trio agreed to curb their enthusiasm for fishing, despite the affinity youngsters everywhere have for the pastime.

—John Leonard
Division of Hatcheries and
Fishery Resource Management

A lot of Alaska Area Office employees are "seeing red" because of an article on the Fish and Wildlife Service's blood donation programs in the August-September issue of *Fish and Wildlife News*.

While our Alaska office does not have an arrangement through the Red Cross for blood donations, it most certainly *does* have a blood donor program, as Area Director Keith Schreiner has pointed out to us. The Service's "Blood Bank Club" has been going for almost 5 years, and through it employees are encouraged to donate to a local blood bank. In addition to regular donations, when an emergency call goes out, the Service's employees always turn out, Schreiner says; even traveling employees are encouraged to drop off a pint before they leave the State.

We regret the error.

And with all Regional and Area Offices reporting some type of blood program for their employees, we think there's no excuse for anyone not to "pitch in."

Nongame Bill

cont. from p. 1

the Pacific Islands and the Northern Mariana Islands will receive matching funds on a formula basis.

Because two-thirds of the apportionment will be based on population, the wildlife found in urban areas and suburbs likely will receive special emphasis. A growing number of Americans are spending their leisure time in outdoor recreation such as birdwatching, hiking, and camping, as indicated in the Service's 1975 national survey. The survey showed that the number of days spent observing wildlife was 10 times greater than the total days spent that year attending professional baseball games, NCAA and NFL football games, and horseraces combined.

Greenwalt said that in calling for statewide conservation "master" plans, the Act "clearly recognizes the need for comprehensive management of all fish and wildlife and their habitats as part of an interrelated environment. It also recognizes the intrinsic value of all species, regardless of their use." Chipmunks, meadowlarks, songbirds, herons, ospreys, and cardinals are among the nearly 3,000 nongame vertebrate species in this country that will benefit from the new legislation.

—Inez Connor
Office of Current Information

Viewpoint

cont. from p. 15

scientific management of America's fish and wildlife. With the Service's equally determined administration of the Nongame Act, I am sure that all Americans interested in fish and wildlife, for whatever purpose, can look to this new program as a point of beginning and will, in time, see clear proof of its substantial contribution to even more successful fish and wildlife management in this country.

FISH AND
WILDLIFE
NEWS

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John Mattoon, Assistant Director—Public Affairs
Alan Levitt, Chief, Current Information
David Klinger, Editor, *Fish and Wildlife News*

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Fish and Wildlife Service

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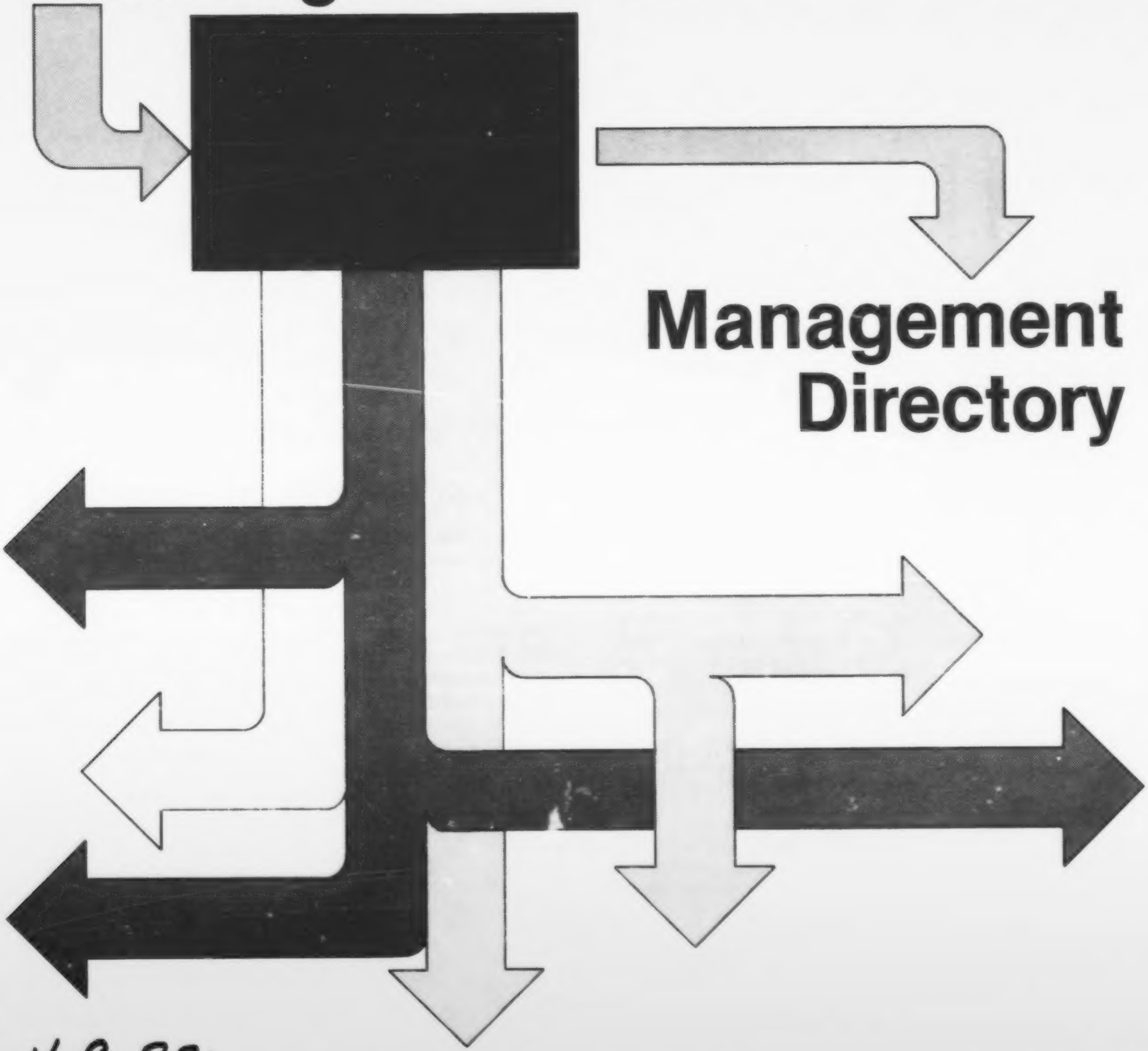
Washington Office Management Directory



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Foreword

This issue of *Fish and Wildlife News* introduces the most recent changes within the Washington Office Directorate. It is difficult to keep a publication like this up-to-date, because in varying degrees, Service programs and responsibilities occasionally are realigned and reorganized; programs, areas, offices, and divisions are renamed and will change from one place on the chart to another; and there will always be new personnel assignments. Change is inevitable, and is necessary for any organization's health and growth.

Conserving the Nation's fish and wildlife and their habitat, both for present and future generations is the vast responsibility we have as the U.S. Fish and Wildlife Service. Our work is as broad, varied, and complex as the resources we serve, and is built around these resources—not around an organizational flow chart. However, without a structure and the people who make it work, we could never accomplish our mission.

I hope this publication will help you to know not only the names and faces behind the titles, but a little about each individual as well. A similar directory for the Regional and Area Offices is planned for the coming months.

Lynn A. Greenwalt

Lynn A. Greenwalt, Director

Directory Guide

This directory follows the layout of the Fish and Wildlife Service organizational chart in the centerfold. Telephone numbers and mail routing symbols on the chart refer to the respective divisions.

—Cheri Rife, special edition editor, Current Information Staff.

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Directorate

Director

Lynn A. Greenwalt, 49, Director of the U.S. Fish and Wildlife Service, was born in Nevada and raised in Oklahoma where his father, a national wildlife refuge manager, was stationed. He holds a B.S. in zoology from the University of Oklahoma and an M.S. in wildlife management from the University of Arizona.

Greenwalt began his Federal career with summer jobs on Wichita Mountains National Wildlife Refuge in Oklahoma while attending college. In 1955 he joined the Service permanently as assistant manager of the Bear River National Wildlife Refuge in Utah, and, shortly thereafter, he joined the Army for 2 years, including an 11-month tour of duty in Germany.

In 1957 he returned to the Fish and Wildlife Service and had numerous field assignments. These included work at the Arizona Cooperative Wildlife Research Unit in Tucson and at the following refuges: Bear River, National Elk in Wyoming, Salt Plains in Oklahoma, Bosque del Apache in New Mexico, and Fish Springs in Utah. His refuge tour was followed by employment in the Division of Refuges in the Albuquerque Regional Office. He went on to become associate supervisor of the Division of Refuges in Minneapolis before joining the Service's law enforcement division as supervisor of law enforcement activities for that region.

Greenwalt transferred to the Washington Office to become chief of the Service's National Wildlife Refuge Division in 1971, and two years later became acting director for operations. His appointment as Director in October 1973 was a career position. However, in 1974 legislation was passed requiring the director of the Fish and Wildlife Service to be nominated by the President and confirmed by the Senate. Greenwalt was then nominated and confirmed. As Director of the Service, he formulates Service policy within limits delegated by the Secretary, and directs all activities of the Service.

Deputy Director

Robert S. Cook, 50, Deputy Director, is from Green Bay, Wisconsin. He received a B.S. in natural resources conservation in 1951, an M.S. in wildlife ecology in 1958, and a Ph.D. in veterinary science—wildlife ecology in 1966, from the University of Wisconsin.

Before joining the Fish and Wildlife Service, Cook had been a wildlife biologist and professor in Wisconsin since 1958. He taught a wide range of natural resource management subjects and was chairman of the biology department at the University of Wisconsin—Green Bay prior to his appointment with the Service. His research experience includes work on wildlife diseases and ecology, wetlands quality, waterfowl nesting, and recreational planning. He has worked as a consultant for some 20 programs and projects, including the UNESCO environmental studies program.

Assistant to the Deputy Director

Suzanne Mayer, 41, Assistant to the Deputy Director, is from Miami, Florida. She attended the University of Cincinnati in Ohio, receiving a B.A. in English literature in 1961 and an M.L.S. in library and information sciences from the University of Portland in Oregon in 1963. In the fall of 1980 she will receive an M.S. in wildlife sciences from Virginia Polytechnic Institute and State University.

She began her Federal career with the Department of the Interior in 1963, working for the Bonneville Power Administration, the Federal Water Pollution Control Administration (now EPA), and the Office of the Secretary of the Department of the Interior.

Mayer joined the Fish and Wildlife Service in 1972. Prior to assuming her current position, she was assistant chief of the Office of Legislative Services.

Mayer participated in the Departmental Manager Development Program during 1971 and 1972, and was a member of the Service's Training Committee from 1974 to 1978.

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Offices of the Director

Office for Equal Opportunity

Barbara Gilliard-Payne, 38, Chief of the Office for Equal Opportunity and Assistant to the Director for Civil Rights, is from Washington, D.C. As an undergraduate she studied social and natural sciences at Howard University and the University of Maryland. In 1979 she earned an M.S. with honors in public administration from American University.

She joined the Fish and Wildlife Service in 1972 as the national equal opportunity and training officer, becoming the first woman to direct a bureau-level equal opportunity program in Interior. Formerly, she served as a personnel management specialist with the Bureau of Outdoor Recreation and in a variety of positions with the U.S. Public Health Service.

Also in 1972, Gilliard-Payne became the first black woman accepted for membership in Toastmasters' International in Interior, and won Interior's serious speech contest in 1975. She is a member or delegate to many governmental and nongovernmental committees. Recognition by her peers includes appointment as the first chairperson of the Financial Disclosure Review Commission of Howard County, Maryland; selection as "Manager of the Month" by the Federal Executive Board of Denver, Colorado; and nomination to "Who's Who Among Latin Americans in the Washington, D.C., Metropolitan Area." She has been featured in several publications, including the "Black Collegian" and "The Skanner," and recently she was nominated to "Who's Who of American Women."

International Affairs Staff

Lawrence N. Mason, 42, acting Chief, International Affairs Staff, is from Roanoke, Virginia. Following his graduation from the University of Virginia at Charlottesville in 1960, where he received a B.A. in economics, he attended the University of Richmond School of Law from 1960 to 1962.

Prior to joining the Service, Mason spent 11 years in the Office of the Secretary, including 7 years on the staff of the Assistant to the Secretary for International Activities, and 1 year as a staff aide to the Deputy Assistant Secretary for Administration.

He began his Fish and Wildlife career in 1976 as deputy chief of the newly established International Affairs Staff. He has been directly involved in many of the international responsibilities assigned to the Service in recent legislation, including programs for endangered species conservation in Egypt, Spain, and the People's Republic of China.

Mason's view of the International Affairs function is that it should serve as a catalyst for taking international conservation goals, identified by Service scientists, through the international political "obstacle course."

Extension Education Staff

Conley L. Moffett, 48, Chief, Extension Education Staff, is a native of Waco, North Carolina. After serving in the paratroops during the Korean Conflict, he graduated with honors from Appalachian State Teachers College in 1957 with a B.S. in science education.

Moffett taught at both the high school and college levels. He served 10 years as chief naturalist for the North Carolina Department of Conservation and Development before coming to the Fish and Wildlife Service in 1969 as refuge interpretive specialist in the Atlanta Regional Office. He came to Washington in 1973, also as refuge interpretive specialist. Shortly thereafter, he became assistant program coordinator and then program coordinator for the Interpretation and Recreation Program. In addition to these duties, he has served as the Service's historic preservation officer and is currently the Service's representative in all matters relating to education, interpretation, and extension education.

Moffett has authored many technical and nontechnical publications and is nationally recognized as a leader in his field.

Office of Legislative Services

James (Russ) Fielding, 56, Chief, Office of Legislative Services, is a native of Baldwin, Florida. He earned a B.S. in wildlife management at Texas A&M University in 1949 and an M.S. in fish management at Auburn University in 1950. He also has taken graduate work at George Washington University.

Fielding began his career as an assistant fish culturist at the Alabama Agricultural Experiment Station. Two years later, in 1952, he joined the Fish and Wildlife Service as a fish and wildlife biologist in the Atlanta Regional Office, leaving in 1954 to conduct mariculture research at the Marineland Research Laboratory in Florida. He rejoined the Atlanta Regional Office in 1956 as assistant to the regional supervisor, Branch of Fish Hatcheries; was appointed regional supervisor, Branch of Fishery Management Services, in 1957; became chief, Division of Sport Fisheries, in 1960; and in 1967 was named assistant regional director for Cooperative Services. Fielding transferred to the Minneapolis Regional Office in 1967 as assistant regional director of operations, and the following year moved to Washington, D.C., to serve as staff assistant to the Assistant Secretary for Fish and Wildlife and Parks. He returned to the Service in 1971, as Chief, Office of Legislative Services. This office directs and coordinates the Service's legislative and congressional relations programs.

Fielding is a member of the International Association of Fish and Game Agencies and the American Fisheries Society.

Alaska Native Claims Staff

Burkett S. Neely, Jr., 44, acting Chief, Alaska Native Claims Staff, is from Mendenhall, Mississippi. He received his B.S. in biology from the University of Southern Mississippi.

Prior to beginning his career with the Fish and Wildlife Service, he worked as a surveyor for an oil exploration company (seismograph) in the southern and Rocky Mountain States and in Alaska, and served a 2-year tour of duty in the U.S. Navy.

Neely joined the Service in 1965 and served as assistant refuge manager, first on the Savannah National Wildlife Refuge Complex and then at Mattamuskeet Refuge. While at Mattamuskeet, he was program coordinator for a special group student training course for the Atlanta Regional Office. He has also held the position of refuge manager on Cape Romain and Pee Dee Refuges. Neely transferred to the Washington Office in 1976 where he was the wilderness planner in the Refuge Division for one-and-a-half years. He then went to the Director's staff as deputy chief of the Alaska Native Claims Staff, before being appointed acting Chief in May 1980. In this position he is involved with native claims on existing refuges in Alaska and Service and Departmental proposals for new refuges in Alaska. He serves as the Service's representative to the Assistant Secretary for Fish and Wildlife and Parks and the Office of the Secretary on Alaska lands legislation.

Federal Assistance

Associate Director

Ronald E. Lambertson, 39, Associate Director-Federal Assistance, is a native of Adams County, Colorado.

Receiving his doctorate in law from the University of Colorado in 1970 and holding an undergraduate degree in wildlife biology from Colorado State University, Lambertson began his career with the Interior Department in the Office of the Solicitor. He was appointed to the position of assistant solicitor in 1974, were he served as the Fish and Wildlife Service's chief legal advisor until his appointment with the Service in December 1979.

As Associate Director for Federal Assistance, he oversees the administration of the Endangered Species Act. He also directs the United States implementation of a 54-nation treaty, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and oversees the issuance of permits for activities with species listed under both the Act and CITES. Additionally, he administers the $110 million Federal aid program for state fish and wildlife restoration and enhancement activities.

He received the Department's meritorious service award in December 1976.

Deputy Associate Director

Harold J. O'Connor, 47, Deputy Associate Director-Federal Assistance, was born in Louisville, Kentucky, and raised in upstate New York. He received a B.A. in biology from the University of Buffalo in 1962, after serving as a special agent in the U.S. Army Counter Intelligence Corps.

His career began as assistant refuge manager at the Iroquois National Wildlife Refuge in New York. He subsequently served as refuge manager at the Monomoy, Great Meadow, Parker River, Merritt Island, St. Johns, and Pelican Island refuges. He is a graduate of the first refuge manager training school at Arden Hills, Minnesota, and later taught at the school in 1969. After O'Connor participated in the Departmental Manager Development Program, he served, from 1972 to 1974, as associate regional director of the Albuquerque Regional Office. From 1974 to the present time, O'Connor has been Deputy Associate Director for Federal Assistance.

O'Connor was a member of the United States delegation to the first meeting of the parties of the Convention on International Trade in Endangered Species of Wild Fauna and Flora held in Berne, Switerland, in 1975. He was chairman of the U.S. Endangered Species Scientific Authority, and was also a member of the U.S./Japan Natural Reserve Panel, serving as its chairman in 1977.

Office of Endangered Species

John L. Spinks, Jr., 37, Chief, Office of Endangered Species, is a native of Crockett, Texas. He attended Texas A&M University, and graduated with a B.S. degree in wildlife science in 1966.

Spinks' career in wildlife management began in 1966 as chief of information and education with the South Carolina Wildlife Resources Department. From 1968 to 1973, he served as southwest regional representative with the National Audubon Society, where he was responsible for Audubon programs and interests in a five-State area and Mexico. He then served as field director of the Wildlife Society until 1974, at which time he joined the Department of the Interior as a special assistant to the Assistant Secretary for Fish and Wildlife and Parks.

He began his current position as Chief of the Endangered Species Office in February 1977. This office provides national leadership for preservation and restoration of species threatened with extinction in the United States. The endangered species program includes identification of species that should be included on the Secretary's lists and the planning and coordination of efforts to restore those species as well as funding the Service's role in that effort.

Division of Federal Aid

Charles K. Phenicie, 61, Chief of the Division of Federal Aid, is from Tacoma, Washington. He attended the School of Fisheries at the University of Washington and received a B.S. degree in 1944.

Prior to joining the Fish and Wildlife Service, Phenicie worked on otter trawl research for the Washington State Department of Fisheries, followed by 10 years as chief fisheries biologist for the Montana Department of Fish and Game. He was the first fishery biologist with the Montana department. After service as research coordinator for the Pacific Marine Fisheries Commission, Portland, Oregon, he was in the private building supply business in Cut Bank, Montana, for 11 years.

Phenicie joined the Service's Federal Aid Division in 1968 in the Minneapolis Regional Office. In 1972 he became area manager in Kansas City, under the Denver Regional Office, transferring to Washington, D.C., in 1975 as Chief of Federal Aid. His office conducts staff activities relating to the Anadromous Fish Conservation Act, the Federal Aid in Wildlife Restoration Act, and the Federal Aid in Fish Restoration Act. These acts are concerned with the restoration and enhancement of fish and wildlife resources through financial and technical assistance to the States.

Federal Wildlife Permit Office

Richard M. Parsons, 37, Chief, Federal Wildlife Permit Office, is from Hartford, Connecticut. He received a B.S. in English literature from the University of Connecticut in 1964 and a doctorate in law in 1967. He subsequently received a master's degree in international law from New York University in 1968.

Prior to joining the Interior Department Solicitor's Office in 1970, Parsons had been with the Department of Agriculture General Counsel's Office in Washington, D.C., from June 1968. As an attorney in the Solicitor's Office, he had responsibility for developing the initial regulations to implement the Endangered Species Conservation Act of 1969. Toward the end of 1970, he joined the National Oceanic and Atmospheric Administration General Counsel's Office, during which time he worked on several international fisheries treaties and participated in the development of U.S. positions for the Law of the Sea negotiations as well as being involved in the negotiations of the Endangered Species Treaty.

From 1973 to 1976, Parsons was in the Service's Washington Office of the Division of Law Enforcement. Initially he was the special-agent-in-charge (SAC) of international investigations, dealing primarily with violations of the Endangered Species and Marine Mammal Acts. After the Service's reorganization, he became the SAC of regulations and rulings.

Now, as Chief of the Permit Office, he assumes primary responsibility for insuring implementation and continuing functions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

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Environment

Associate Director

Michael J. Spear, 38, Associate Director-Environment, is from San Francisco, California. He received a B.S. in mathematics in 1963 from the U.S. Naval Academy and an M.A. in business administration in 1971 from Stanford University.

Spear began his Federal career in July 1971 with the Department of Health, Education, and Welfare, serving in the Office of the Assistant Secretary for Planning and Evaluation. In May 1973 he joined the staff of Interior's Assistant Secretary for Program Development and Budget. He joined the Fish and Wildlife Service in December 1973 as the assistant director for planning and budget and was appointed to his present position in November 1978.

As Associate Director-Environment, Spear is responsible for the overall planning and execution of major ecological and biological services pertaining to environmental programs, activities, and issues as they affect fish and wildlife resources, and he has full authority and direct responsibility for direction of programs under the habitat preservation category. These programs include Environmental Contaminant Evaluation, which supports research conducted by the Fish and Wildlife Service in its research centers and laboratories and field operations; Biological Services Program, which primarily supports studies managed by the Service and done by outside contractors; and Land and Water Resource Development Planning, which mainly supports field operations conducted by Service employees

Deputy Associate Director

Rolf L. Wallenstrom, 47, Deputy Associate Director-Environment, is from Syracuse, New York. He has a B.S. degree from New York State College of Environmental Science and Forestry at Syracuse University, and is a graduate of Harvard University's executive program on environmental policy and management.

Prior to joining the Fish and Wildlife Service, Wallenstrom worked for the Diamond Match Corporation in Superior, Montana, and Crown Central Petroleum Corporation in Baltimore, Maryland. He joined the Service with the Division of Realty in Minneapolis, Minnesota, in 1959. He was senior appraiser in the wetlands program in Fergus Falls, Minnesota, from 1961 to 1964, and wetlands programs supervisor in Aberdeen, South Dakota, from 1964 to 1970. After attending the Departmental Manager Development Program in 1972, he became one of the Service's first area managers with responsibilities for the States of South Dakota and Nebraska. He assumed his present duties in August 1979.

Wallenstrom received the Department's meritorious service award in 1978 for his leadership of Service programs in South Dakota and Nebraska.

Program Development Staff

Rolf L. Wallenstrom is also Chief of the Program Development Staff—Environment. In this position, he is responsible for planning, budget preparation, and development and review of policy relating to Habitat Preservation programs.

Division of Ecological Services

W. T. (Tom) Olds, 44, Chief, Division of Ecological Services, is from Clearwater, Florida. He received a B.S. in forestry and wildlife management from the University of Florida in 1958 and a master's in public administration from the American University in 1977.

Before joining the Service, Olds was a regular Army officer for over 5 years and served as a pilot with the 23rd Special Warfare Aviation Detachment in South Viet Nam in 1962 and 1963, receiving the Air Medal with five oak leaf clusters.

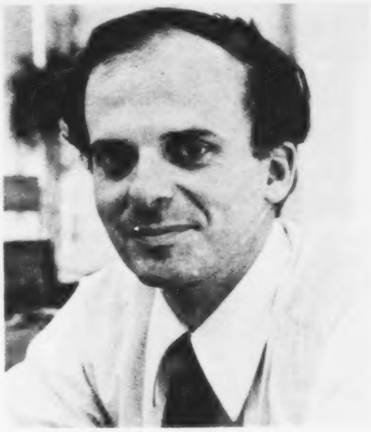
In 1963, Olds joined the Fish and Wildlife Service as a field biologist in Raleigh, North Carolina, with the Division of River Basin Studies, and in 1967 became a staff biologist with the same division in the Atlanta Regional Office. After receiving a special achievement award, he was appointed as the division's regional supervisor for the Boston Region in 1972, and in July 1974 he became assistant division chief in Washington, D.C. He was named deputy associate director for Environment in November 1974, and assumed his present position in 1979.

In Raleigh and Atlanta he participated in studies of fish and wildlife affected by water pollution in Chesapeake Bay. In Atlanta he served also as Departmental field team leader for reevaluation of Alcovy River Watershed, Georgia, and participated in a Service team that reevaluated the Tocks Island Dam project in the Northeast.

From 1977 to 1979, Olds was a board member for the International Joint Commission (U.S. and Canada).

Office of Biological Services

John D. (Doug) Buffington, 38, Chief, Office of Biological Services, is from Jersey City, New Jersey. He graduated in 1963 from St. Peter's College in New Jersey with a B.S. in biology. He received an M.S. in 1965 and a Ph.D. in 1967 in animal ecology from the University of Illinois.



He was on the faculty of Illinois State University from 1969 to 1972. He then went to Argonne National Laboratory where he held positions as assistant ecologist, ecologist, and assistant division director of the environmental impact study division. In 1977 Buffington joined the Council on Environmental Quality as a senior staff member for environmental data and monitoring. Following CEQ, he came to the Fish and Wildlife Service, and recently assumed his present position. His office directs and coordinates the development of a nationwide system for assessing the ecological effects of major proposed land and water use changes.

Buffington is currently vice chairman of the state of the environment group of the Organization for Economic Cooperation and Development as well as being vice chairman of the applied ecology section of the Ecological Society of America.

Office of Environmental Coordination

Stephen H. Taub, 44, Chief, Office of Environmental Coordination, is from Jamaica, New York. He received a B.S. in wildlife conservation from the University of Maine in 1958 and an M.S. in fishery biology from the University of Massachusetts in 1966.

Before joining the Service, he worked as a State fishery biologist in Connecticut from 1960 to 1964 and earlier as a biological technician for the New York Department of Conservation.

Taub joined the Fish and Wildlife Service in 1966 as the assistant leader of the Ohio Cooperative Fishery Unit. He came to Washington to administer the Service's fishery unit program in 1972, and in 1976 he became Chief, Office of Environmental Coordination. This office coordinates the preparation and review of environmental statements required by the National Environmental Policy Act (NEPA), and serves in an advisory capacity for all NEPA-related matters.

He is the author of more than 30 technical articles on fisheries research and management and on environmental protection. From 1978 to 1979 he was president of the northeastern division, American Fisheries Society. He is currently chairman of the American Fisheries Society national time and place committee, and in 1976 was chairman of the National American Fisheries Society nominating committee.

Taub is interested in all aspects of fish and wildlife resource management, but his area of special expertise is coldwater fisheries.

Research

Associate Director

F. Eugene Hester, 49, Associate Director-Research, is from Wendell, North Carolina. He received his B.S. degree in 1954 and an M.S. in 1956 in wildlife conservation and management from North Carolina State University, and his Ph.D. in zoology (fisheries) from Auburn University in 1959.

Hester served on the faculty of the zoology department at North Carolina State University before joining the Fish and Wildlife Service in 1963. He served as leader of the North Carolina Cooperative Fishery Unit for 8 years, and then transferred to Washington, D.C., in 1971 as chief, Division of Fishery Research. In 1974 he became associate director for Research, a position that later was expanded to Environment and Research, once again to be changed to associate director—Research during the reorganization effort in 1979. As the senior Research executive, Hester is the principal representative for this activity and provides internal policy and program guidance.

Since joining the Service, Hester has been awarded the superior service award, the Governor's Award in Conservation Education, the Sigma Xi Research Award, and Tar Heel of the Week. He was chairman of 25 M.S. and Ph.D. committees (18 fisheries and 7 waterfowl), and served on various other graduate committees. Most of these research projects and his own personal research were in fish genetics and breeding (including hybridization), fish physiology, ecology, and the nesting biology, migration and population dynamics of wood ducks. He is also the author of numerous publications.

Deputy Associate Director

Richard N. Smith, 46, Deputy Associate Director-Research, is from Boston, Massachusetts. He holds a B.S. in wildlife management from the University of Maine and an M.S. in wildlife management from the University of Massachusetts. He also received an M.S. in public administration from American University, Washington, D.C., in 1978.

Smith was a member of the U.S. Army Transportation Corporation from 1953 to 1955. His wildlife management career began as a waterfowl biologist with the Maryland Inland Fish and Game Commission in 1958, where he worked on Chesapeake Bay activities.

He joined the Fish and Wildlife Service in 1962 as an animal control biologist in the Division of Predator and Rodent Control in Massachusetts. He later served as assistant district agent, Division of Wildlife Services, Columbia, South Carolina; State supervisor, Division of Wildlife Services, Columbus, Ohio; and staff specialist-research, Animal Damage Control, Washington, D.C., and as assistant deputy associate director of Research. He was appointed to his present position in 1979.

Division of Fishery Ecology Research

Robert E. Stevens, 55, Chief, Division of Fishery Ecology Research, is from Suffolk, Virginia. He attended William and Mary College in Williamsburg, Virginia, and received his B.A. in business administration in 1950, a B.S. in wildlife biology from North Carolina State College in 1953, and a Ph.D. in zoology from North Carolina State University in 1970.

Stevens began his career first as a fish biologist at the North Carolina Resources Department and then at the South Carolina Wildlife Resources Department. When he joined the Fish and Wildlife Service in 1966, he served as assistant unit leader of the North Carolina Cooperative Fishery Unit. He left the Service in 1970 to work as senior fisheries scientist at the Marine Protein Corporation, and then as chief of coastal fisheries for the Texas Parks and Wildlife Department. In 1975 he was endangered species administrator for the National Marine Fisheries Service, and in 1977 he rejoined the Fish and Wildlife Service as aquaculture coordinator with the fishery assistance office. He was appointed to his present position in 1978.

He has received the Clarence A. Watson Award for Excellence in Fishery Research. In 1965 he was named by South Carolina "Wildlife Biologist of the Year," and received the Heddon Hall of Honor for outstanding contributions to the Inland Striped Bass Fishery in 1979. This year he will be co-recipient of a special award of the American Striped Bass Society for pioneering work in the culture of striped bass.

Stevens has special expertise in hormone-induced ovulation of pond rearing of warmwater fishes and in reservoir management.

(Research continued on page 24)

Division of Wildlife Ecology Research

David L. Trauger, 38, Chief, Division of Wildlife Ecology Research, is from LuVerne, Iowa. He received a B.S. in fish and wildlife management in 1964, an M.S. in wildlife biology in 1967, and a Ph.D. in animal ecology in 1971 from Iowa State University.

Before joining the Service, Trauger held faculty appointments at Iowa State University where he taught wildlife conservation and environmental biology from 1967 to 1972. He conducted extensive field research on the breeding biology and migrational ecology of diving ducks in Canada and the North Central States, and he has authored more than 25 scientific papers and popular articles.

Trauger began his Federal career with seasonal employment at Union Slough National Wildlife Refuge in Iowa, Squaw Creek Refuge in Missouri, and Northern Prairie Wildlife Research Center in North Dakota. He joined the Service permanently in 1972 as a wildlife research biologist at the Northern Prairie Wildlife Research Center, becoming assistant director at the center in 1975. He received his present appointment in 1979.

In 1970 Trauger received the "Conservation Award of Merit" from the Iowa chapter of The Wildlife Society for his leadership in environmental activities. He was recognized by the Iowa State University Alumni Association as an "Outstanding Young Alumnus" in 1977.

Office of Cooperative Units

Rollin D. Sparrowe, 39, Chief of the Office of Cooperative Units, is a native of California. He received a B.S. in game management from Humboldt State College in 1964, an M.S. in wildlife management from South Dakota State University in 1966, and a Ph.D. in wildlife ecology in 1969 from Michigan State University.

Sparrowe held various positions with the California Department of Fish and Game on projects developing food plants for waterfowl management. His first Federal position was as a ranger-naturalist with the National Park Service in Yellowstone, Wyoming. He joined the Fish and Wildlife Service permanently in 1969 as assistant leader, Missouri Cooperative Wildlife Research Unit.

In 1976 Sparrowe became supervisor, Cooperative Wildlife Research Units, and transferred to the Washington Office. This office is responsible for developing research and training programs at the land grant universities where the units are located in coordination with the university, Federal agencies, State conservation agencies, and private conservation organiations. In addition to these duties, Sparrowe completed several special assignments, including assessment of the status of HEP with a task force in 1979. From 1976 to 1979, he was team leader on an interagency team cooperating with the government of Spain in planning for a national park. His contributions in the Washington Office in these various roles were recognized with a superior service award in 1978.

Office of Planning and Coordination

Nelson B. Kverno, 53, Chief, Office of Planning and Coordination, is from northern Minnesota. Kverno graduated from Bemidji State College in Minnesota with a B.S. degree in 1950, and received an M.S. in biological science from the University of Denver. In 1973 he received a master's in public administration from the University of New Mexico.

He began his Fish and Wildlife Service career in 1951 with the Denver Wildlife Research Center and spent 8 years working on forest wildlife problems out of Olympia, Washington. He later returned to Denver and served as chief of the section of mammals. In 1967 he was placed in charge of the Denver-based AID-sponsored program associated with vertebrate damage control in agriculture in less developed countries. He transferred to Washington, D.C., in 1974 as chief, Division of Population Regulation, and was later named Chief of the newly created Office of Planning and Coordination. This office consolidates requests and needs, develops research strategies, and assists in planning and coordinating research needs, and determining their priorities considering the capabilities within Research.

Fishery Resources

Associate Director

Galen Buterbaugh, 46, Associate Director, Fishery Resources, is from Walnut Grove, Minnesota. He received a B.S. in fish and wildlife management from the University of Minnesota in 1960, and completed graduate-level courses at Auburn University, Alabama, George Washington University, and the USDA Graduate School.

Buterbaugh worked during college with the Department of Agriculture and the Department of Fish and Game of the State of Minnesota before joining the Service in 1960. After serving at six national fish hatcheries, he became assistant regional director of the Division of Fish Hatcheries in 1967 at the Portland Regional Office. In 1968 he was appointed chief of the branch of fish culture, Division of Fish Hatcheries, in Washington, D.C., and then he transferred to the Minneapolis Regional Office in 1971 as chief of the Division of Fishery Services, followed by the position of associate regional director in 1972. Four years later, he returned to Washington, D.C., to serve as deputy associate director of Fishery Resources.

Buterbaugh was appointed to his present position in August 1979. He is responsible for the operations of the National Fish Hatchery System, consisting of 88 facilities; a national system of fishery management biologists who provide technical fishery assistance to other Federal agencies, including military and Indian reservations, State and local governments, and private citizens; Service engineering activities; and the Service energy conservation program. As program manager he also has program responsibilities for fishery research activities.

Deputy Associate Director

Thomas J. Parisot, 50, Deputy Associate Director-Fishery Resources, is a native of Butte, Montana. He received a B.S. in microbiology and public health from Idaho State College in 1955 and an M.S. in the same field from Washington State College in 1957. He has also done extensive post-graduate work in fisheries and public administration. Currently, he is completing a master's program in public administration at American University in Washington, D.C.

Serving in the fish and wildlife field for over 20 years, he began his professional career in the military in 1952 as a research and laboratory bacteriologist, then as a research fellow (virology) in the fur-animal disease laboratory at Washington State College.

Parisot joined the Fish and Wildlife Service in 1957 as a junior scientist at the Fish Disease Laboratory in Seattle, Washington. In 1967 he became the assistant director, Fish Pesticide Research Laboratory, Columbia, Missouri, and subsequently completed a 2-year training assignment in general management. Later assignments included staff assistant to the Assistant Secretary for Fish and Wildlife and Parks, staff assistant to the Assistant Secretary for Program Policy, staff assistant to the Service's Assistant Director for Planning, and as director of National Fisheries Research Laboratory. Most recently he served jointly as chief of the Program Development Staff and acting deputy associate director of Fishery Resources until his present appointment in July 1980.

Energy Coordinator

Leslie L. Cunningham, 50, Energy Coordinator, is from Washburn, West Virginia. He received a B.S. in 1961 and an M.S. in 1965 in geodetic science from Ohio State University.

Before joining the Fish and Wildlife Service in August 1980, Cunningham spent 1 year with the National Recreation and Park Association as deputy program director and director of the energy conservation program. Before that, Cunningham spent 16 years as a civilian research scientist with the U.S. Navy, performing research in geodesy, hydrography, oceanography, and navigation.

Cunningham was responsible for navigation during the search for the lost submarine "Scorpion" in 1968. He was also responsible for developing the pulsed light airborne depth sounder to enable the Navy to conduct hydrographic surveys in shallow coastal waters from aircraft. He was assigned as a consultant to the Weapons Research Establishment in Adelaide, South Australia, where he assisted the Australian Government in developing a laser depth sounder.

As Energy Coordinator, Cunningham is responsible for coordinating the Service's energy conservation program to meet energy use reduction goals mandated by the President, Congress, and the Department of the Interior.

Program Development Staff

William P. Atchison, 49, acting Chief, Program Development Staff-Fishery Resources, is a native of Washington, D.C. After attending public schools in Washington and Wesleyan University in Connecticut, he went to George Washington University in the District of Columbia, where he received his B.A. degree in English literature in 1955.

Prior to employment with the Service, he worked for the Department of Defense and the Immigration and Naturalization Service.

Atchison joined the Fish and Wildlife Service in 1953 as a part-time employee of the former Branch of Game-Fish and Hatcheries. He remained with hatcheries until 1971 when he joined the staff of the Office of the Assistant Director-Planning ice as assistant to the Deputy Direc- and Budget. Following his 1972 serv- tor, he returned to the Office of the Assistant Director for Planning and Budget. He worked there in the Division of Program Plans; acted as program coordinator for the executive direction program; and later served as acting chief of Program Plans from November 1978 to May 1980. He then joined the program development staff as a policy analyst.

He received the Department's meritorious service award in 1969.

Division of Hatcheries and Fishery Resource Management

William E. Daugherty, 49, acting Chief, Division of Hatcheries and Fishery Resource Management, is from Apollo, Pennsylvania. He received a B.S. in zoology from Pennsylvania State University in 1958, followed by graduate work in fishery management at Colorado State University, George Washington University, and the USDA Graduate School.

Daugherty worked for the Pennsylvania Fish Commission from 1959 to 1961, and then he joined the Service as a fishery biologist in the Division of River Basin Studies in Lebanon, Ohio. From 1962 to 1967, he was project leader, Division of Fishery Management Services in Bismarck, North Dakota. He then became coordinator of the anadromous fish restoration program for the Connecticut River from 1967 to 1970.

After completing the Departmental Manager Development Program in 1971, he was promoted to associate regional supervisor, Division of Fishery Services, Atlanta Regional Office. From 1973 to 1978, he served as chief, branch of technical assistance, special assistant to the regional director, and assistant regional director-hatcheries and fisheries resources, Minneapolis Regional Office. He accepted a transfer to Seattle, Washington, in 1978, where he was the Service's representative on the regional task force to implement settlement of off-reservation fishing rights of Indians in the Pacific Northwest.

Daugherty served as special assistant to the associate director-Fishery Resources when he first came to Washington, D.C., in 1980.

Office of Engineering

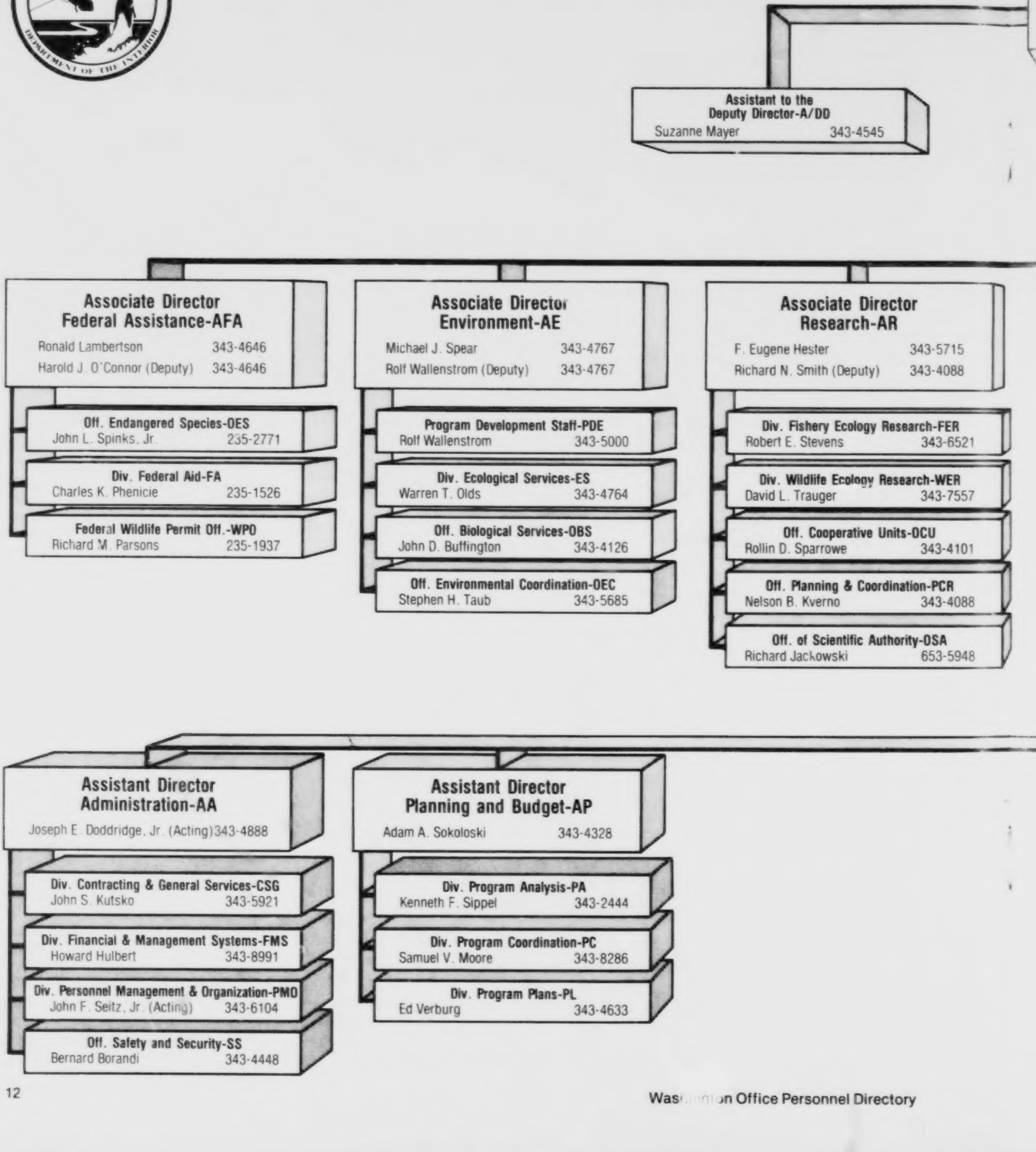
William A. Godby, 48, Chief, Office of Engineering, Denver, Colorado, is from Gamerco, New Mexico. He received a B.S. degree in civil engineering from New Mexico State University in 1959. The following year he took advanced studies in civil engineering at the University of New Mexico.

Before joining the Service, he worked in the New Mexico State Engineer's Office in Albuquerque as a water-rights supervisor, with water-rights responsibilities on the Rio Grande from the southern Colorado border to the northern Texas border, and with the private consulting firm of Limbaugh Engineering and Aerial Surveys, Inc., in Albuquerque as a design engineer.

Godby joined the Fish and Wildlife Service's Albuquerque Regional Office in 1963 as a hydraulic engineer. He remained there until he was transferred in 1968 to the Washington Office Division of Engineering as assistant chief. Following the Service's reorganization and the establishment of Region 6 in 1972, Godby went to Denver as the regional engineer to establish and head an engineering office under the area office concept.

Since being in his present position, he has received the Service's special achievement award for superior performance in 1976, 1977, and 1979. He is a registered professional engineer and a member of the Association of Conservation Engineers.

Organization



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Suzanne Mayer 343-4545

Associate Director Federal Assistance-AFA
Ronald Lambertson 343-4646
Harold J. O'Connor (Deputy) 343-4646

- **Off. Endangered Species-OES** John L. Spinks, Jr. 235-2771
- **Div. Federal Aid-FA** Charles K. Phenicie 235-1526
- **Federal Wildlife Permit Off.-WPO** Richard M. Parsons 235-1937

Associate Director Environment-AE
Michael J. Spear 343-4767
Rolf Wallenstrom (Deputy) 343-4767

- **Program Development Staff-PDE** Rolf Wallenstrom 343-5000
- **Div. Ecological Services-ES** Warren T. Olds 343-4764
- **Off. Biological Services-OBS** John D. Buffington 343-4126
- **Off. Environmental Coordination-OEC** Stephen H. Taub 343-5685

Associate Director Research-AR
F. Eugene Hester 343-5715
Richard N. Smith (Deputy) 343-4088

- **Div. Fishery Ecology Research-FER** Robert E. Stevens 343-6521
- **Div. Wildlife Ecology Research-WER** David L. Trauger 343-7557
- **Off. Cooperative Units-OCU** Rollin D. Sparrowe 343-4101
- **Off. Planning & Coordination-PCR** Nelson B. Kverno 343-4088
- **Off. of Scientific Authority-OSA** Richard Jackowski 653-5948

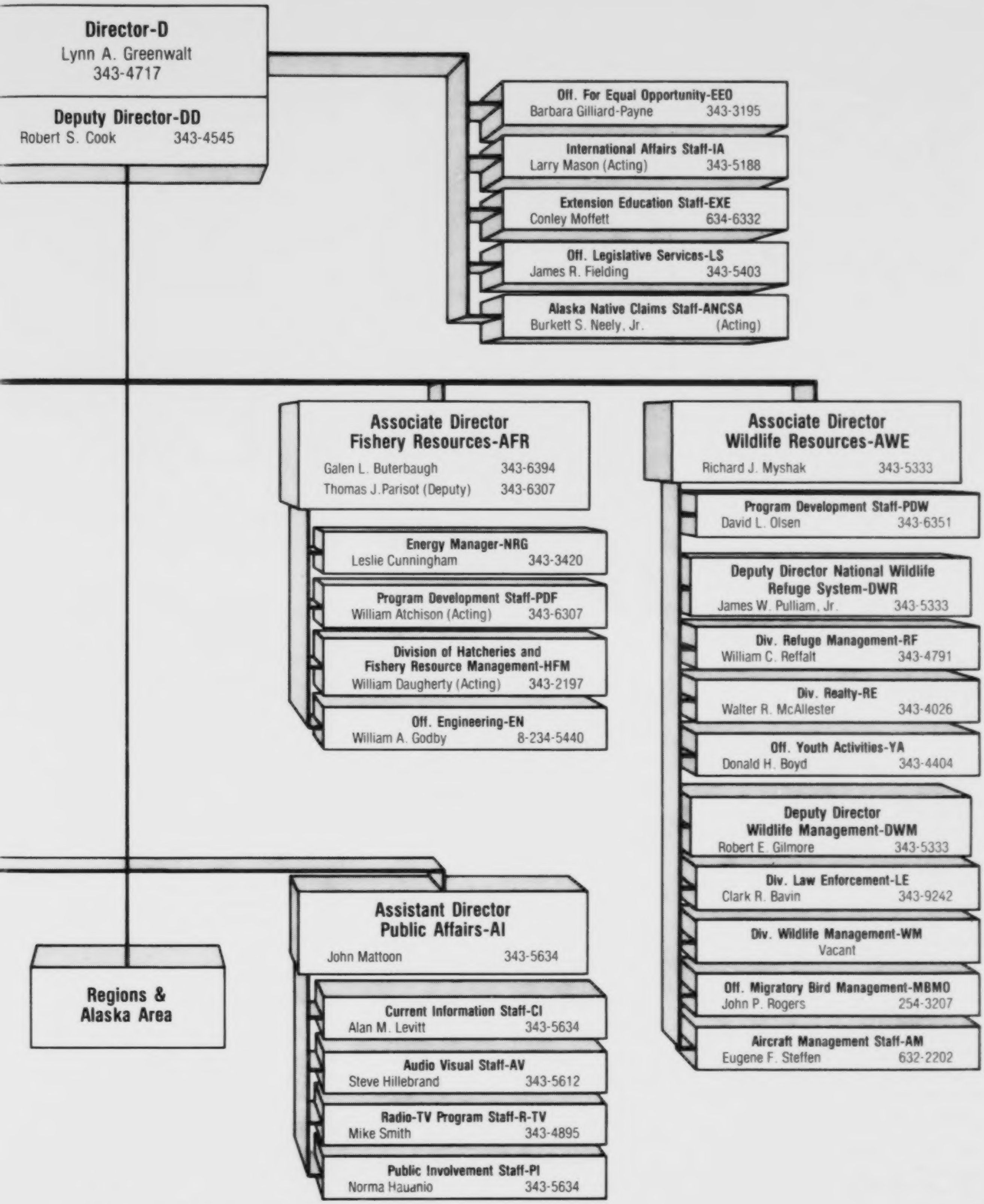
Assistant Director Administration-AA
Joseph E. Doddridge, Jr. (Acting) 343-4888

- **Div. Contracting & General Services-CSG** John S. Kutsko 343-5921
- **Div. Financial & Management Systems-FMS** Howard Hulbert 343-8991
- **Div. Personnel Management & Organization-PMO** John F. Seitz, Jr. (Acting) 343-6104
- **Off. Safety and Security-SS** Bernard Borandi 343-4448

Assistant Director Planning and Budget-AP
Adam A. Sokoloski 343-4328

- **Div. Program Analysis-PA** Kenneth F. Sippel 343-2444
- **Div. Program Coordination-PC** Samuel V. Moore 343-8286
- **Div. Program Plans-PL** Ed Verburg 343-4633

U.S. Fish and Wildlife Service



- **Director-D**
  Lynn A. Greenwalt 343-4717
- **Deputy Director-DD**
  Robert S. Cook 343-4545
  - **Off. For Equal Opportunity-EEO**
    Barbara Gilliard-Payne 343-3195
  - **International Affairs Staff-IA**
    Larry Mason (Acting) 343-5188
  - **Extension Education Staff-EXE**
    Conley Moffett 634-6332
  - **Off. Legislative Services-LS**
    James R. Fielding 343-5403
  - **Alaska Native Claims Staff-ANCSA**
    Burkett S. Neely, Jr. (Acting)
  - **Associate Director Fishery Resources-AFR**
    Galen L. Buterbaugh 343-6394
    Thomas J.Parisot (Deputy) 343-6307
    - **Energy Manager-NRG**
      Leslie Cunningham 343-3420
    - **Program Development Staff-PDF**
      William Atchison (Acting) 343-6307
    - **Division of Hatcheries and Fishery Resource Management-HFM**
      William Daugherty (Acting) 343-2197
    - **Off. Engineering-EN**
      William A. Godby 8-234-5440
  - **Associate Director Wildlife Resources-AWE**
    Richard J. Myshak 343-5333
    - **Program Development Staff-PDW**
      David L. Olsen 343-6351
    - **Deputy Director National Wildlife Refuge System-DWR**
      James W. Pulliam, Jr. 343-5333
      - **Div. Refuge Management-RF**
        William C. Reffalt 343-4791
      - **Div. Realty-RE**
        Walter R. McAllester 343-4026
      - **Off. Youth Activities-YA**
        Donald H. Boyd 343-4404
    - **Deputy Director Wildlife Management-DWM**
      Robert E. Gilmore 343-5333
      - **Div. Law Enforcement-LE**
        Clark R. Bavin 343-9242
      - **Div. Wildlife Management-WM**
        Vacant
      - **Off. Migratory Bird Management-MBMO**
        John P. Rogers 254-3207
      - **Aircraft Management Staff-AM**
        Eugene F. Steffen 632-2202
  - **Assistant Director Public Affairs-AI**
    John Mattoon 343-5634
    - **Current Information Staff-CI**
      Alan M. Levitt 343-5634
    - **Audio Visual Staff-AV**
      Steve Hillebrand 343-5612
    - **Radio-TV Program Staff-R-TV**
      Mike Smith 343-4895
    - **Public Involvement Staff-PI**
      Norma Hauanio 343-5634
  - **Regions & Alaska Area**

Wildlife Resources

Associate Director

Richard J. Myshak, 52, Associate Director—Wildlife Resources, is from Minneapolis, Minnesota. He received a B.S. in forest management, with a minor in wildlife management, from the University of Minnesota in 1953, and a B.S. and M.S. in education/biology, with minors in chemistry and social sciences, from Mankato State University, Minnesota, in 1954 and 1962, respectively.

Prior to joining the Fish and Wildlife Service, Myshak served with the Navy and Army as well as teaching high school for 8½ years. He served as field secretary and editor for the Minnesota Academy of Science in 1962. In 1964 he became assistant to the science director on the Minnesota school mathematics and science teaching project in the University of Minnesota's Institute of Technology. He then served as executive director of the Minnesota Department of Natural Resources, and in 1977 became deputy assistant secretary to the Assistant Secretary for Fish and Wildlife and Parks of Interior.

Myshak was appointed to his current position in November 1979. In this position he oversees and sets policies for the operation of 410 national wildlife refuges; a nationwide network of wildlife interpretation specialists, law enforcement officers and wildlife inspectors; the management of migratory birds, marine mammals, other non-endangered mammals and non-migratory birds; animal damage control; and land acquisition by the Service.

Currently he is serving his second term as national president of the Conservation Education Association. For his many accomplishments in civic and professional activities, he has received numerous local, State and national awards.

Program Development Staff

David L. Olsen, 46, Chief, Program Development Staff—Wildlife Resources, is from Long Island, New York. He attended Long Island Agricultural and Technical Institute in New York and Bridgewater College in Virginia, receiving a B.A. in biology from Bridgewater in 1960. He received his M.S. degree in wildlife management from Southern Illinois University in Carbondale in 1964.

Olsen began his Federal career by completing is thesis research on Crab Orchard National Wildlife Refuge. He spent a summer as a student assistant on Agassiz National Wildlife Refuge and returned there in 1962 as the assistant manager. He was transferred in 1965 to Lake Andes National Wildlife Refuge in South Dakota as a manager and served there until 1968 when he transferred to Hawaii. He left Hawaii in 1973 to come to the Washington Office, where he worked in a number of positions, including staff specialist, chief of the branch of operations, and, for a short time, acting chief of the Division of Refuge Management. He has served in his current position since May 1980, providing staff support for the development of long-range program goals and policies as identified in program management documents.

Olsen is a graduate of the Departmental Manager Development Program and has been the leader of the Whooping Crane Recovery Team.

Deputy Associate Director

James W. Pulliam, Jr., 44, Deputy Associate Director—National Wildlife Refuge System, is from Henderson, North Carolina. He received a B.S. degree in wildlife conservation and management from North Carolina State University in 1958.

Pulliam began his Federal career as an assistant refuge manager on Mingo National Wildlife Refuge in Missouri. In 1959 he transferred to the Louisa-Keithsburg Division of the Mark Twain Refuge, where he remained until 1961. He then became a wildlife biologist in the area acquisition office in Aberdeen, South Dakota, before moving to Webster, South Dakota, in 1963 to begin management of a 10-county waterfowl production area district. He became refuge manager of the Lacassine Refuge in Louisiana in 1964, and in 1966 Pulliam transferred to the Washington Office, Division of Wildlife Refuges, as assistant chief, Branch of Programs. From 1970 to 1972 he was assistant regional supervisor, Division of Wildlife Refuges, in Albuquerque, New Mexico. Pulliam then returned to the Washington Office to assume the duties of assistant chief, Division of Wildlife Refuges. He became acting chief of the division in 1973, and was appointed chief of the division in 1974. In 1975 he became acting deputy associate director—wildlife resources, assuming this job on a permanent basis in 1976.

He remained there until 1979 when he was appointed to his present position with responsibilities for the Divisions of Refuge Management, Realty, and Youth Activities. In 1979, Pulliam received a meritorious service award.

Division of Refuge Management

William C. Reffalt, 43, Chief of the Division of Refuge Management, is from Denver, Colorado. He received a B.S. in wildlife management from Colorado State University in 1963.

His Service experience has included positions as manager trainee at Desert National Wildlife Refuge in Nevada; assistant manager at Deer Flat Refuge in Idaho and Bear River Migratory Bird Refuge in Utah; project leader at Bitter Lake Refuge in New Mexico; fish and wildlife biologist with Federal Aid; and regional biologist with the refuge division in the Albuquerque Regional Office. Also, he completed the Departmental Manager Development Program in 1969.

Reffalt served in the Washington Office Refuge Division from 1973 to 1976, where he was assigned to implement the Alaska Native Claims Act. In 1976 that function was organized as a special activity under the Director and Reffalt was designated chief of the Alaska Native Claims Staff. His efforts led to a doubling of the size of the National Wildlife Refuge System, the successful introduction of the concept of national wildlife monuments, and the elevation of fish and wildlife resources to a level of equal consideration with other resource values in Alaska land use planning.

As Refuge Division chief, Reffalt hopes to clarify the role and goals of the National Wildlife Refuge System in protecting and perpetuating the Nation's fish, wildlife, and habitat resources.

Division of Realty

Walter R. McAllester, 53, Chief, Division of Realty, is from Buffalo, New York.

He received a B.S. in forestry from the State College of Forestry at Syracuse University in 1950 after serving in the U.S. Navy during World War II.

Following temporary summer positions with the U.S. Forest Service in Idaho, McAllester received a permanent appointment as an appraiser with the Fish and Wildlife Service in Atlanta in 1950. In 1952 he was selected for the Departmental Manager Development Program. He then worked with the Division of Realty in Washington until he transferred to the Boston Regional Office as an appraiser in 1954. Through subsequent promotion he became assistant regional realty supervisor. In 1962 McAllester returned to Washington as assistant chief, Division of Realty, and became Chief in 1971. In this position he also serves as Secretary to the Migratory Bird Conservation Commission.

In 1979, he received the Department's Meritorious Service Award.

Office of Youth Activities

Donald H. Boyd, 45, Chief, Office Office of Youth Activities, is from Welch, West Virginia. He received his B.S. in social science from the University of Louisville in 1957 and his M.S. from the University of Syracuse in 1959.

Prior to joining the Fish and Wildlife Service, he was athletic director at Southern Cayuga Central School, Poplar Ridge, New York. He was employed by the U.S. Forest Service at the Timbulake Job Corps Center in Estacada, Oregon, in 1965.

Boyd joined the Fish and Wildlife Service in 1966. He served as corpsman supervisor at the Iroquois Job Corps Center in Medina, New York. Before he transferred to Washington, D.C., in 1969 as staff specialist for youth programs, he was assistant regional supervisor for the Job Corps Center in Minneapolis, Minnesota, for 2 years. He was appointed to his present position in 1971.

Wildlife Resources (continued)

Deputy Associate Director

Robert E. Gilmore, 45, Deputy Associate Director-Wildlife Management, was born in West Palm Beach, Florida, and was raised in Fairhope, Alabama. He received a B.S. degree in wildlife management at Auburn University and also attended George Washington University, completing courses leading to an M.S. degree in public administration.

Gilmore began his career in 1954 as a research assistant at the Auburn Cooperative Wildlife Research Unit in Alabama. In 1958 he became the district wildlife biologist at the North Carolina Wildlife Resources Commission, leaving to serve in the U.S. Army as a wildlife consultant until 1960. He worked as a wildlife biologist for U.S. Steel Corporation for 6 years before joining the Fish and Wildlife Service in 1966.

He first served as assistant refuge manager at Chassahowitka National Wildlife Refuge and then at White River Refuge. Gilmore then moved to Back Bay Refuge as refuge manager, and in 1971 and 1972 he participated in the Departmental Manager Development Program. After that, he served as a land use specialist in the Portland Regional Office where he became assistant regional refuge supervisor in 1975. He transferred to Washington, D.C., in August 1976, to become Migratory Bird Program coordinator. Later he was promoted to chief, Program Development-Wildlife, and then to his current position of Deputy Associate Director-Wildlife Management, in January 1980.

Gilmore has a special interest in methods and procedures for improving management and administrative procedures within Government.

Division of Law Enforcement

Clark R. Bavin, 43, Chief, Division of Law Enforcement, is from South Bend, Indiana. He received a B.S. in law enforcement administration from Michigan State University in 1959 and has done graduate work in wildlife management. He received a law degree from American University's School of Law and is a member of the bar of the District of Columbia.

Bavin joined the Fish and Wildlife Service in 1961 as a law enforcement officer at Crab Orchard National Wildlife Refuge and later became a U.S. game management agent in Elgin, Illinois. After being part of the Departmental Manager Development Program and going on a number of law enforcement assignments throughout the United States and in several foreign countries, he transferred to the Washington Office in 1967 to head the Service's national law enforcement training program. In 1970 he assumed additional responsibilities for law enforcement planning, resource allocations, management systems, and program evaluation and coordination. Bavin was appointed chief of the Division of Law Enforcement in 1972.

Division of Wildlife Management

Vacant.

Office of Migratory Bird Management

John P. Rogers, 56, Chief, Office of Migratory Bird Management, is from Boston, Massachusetts. He received a B.S. in botany from the University of Massachusetts in 1950 and a Ph.D. in zoology and wildlife ecology from the University of Missouri in 1962.

While pursuing his Ph.D., he received various fellowships including the R. Howard Fellow at Delta Waterfowl Research Station in Canada and the E. Sidney Stevens Fellow at the University of Missouri. He was also elected fellow of the American Association for the Advancement of Science in 1971.

Rogers was a waterfowl biologist at the Massachusetts Division of Fisheries and Game, and worked at the Delta Waterfowl Research Station before joining the Fish and Wildlife Service in 1966. He served as staff specialist in wetland ecology in the Division of Wildlife Research in Washington, D.C., and in 1968 he was named assistant director of the Migratory Bird Populations Station in Laurel, Maryland. He has been Chief, Office of Migratory Bird Management, since 1972.

He served as vice chairman of the program committee of the North American Wildlife and Natural Resources Conference held in Mexico City in 1972, and received Interior's meritorious service award in 1973. Presently he is a U.S. delegate to the International Waterfowl Research Bureau.

Rogers co-authored *The Wood Duck in Massachusetts,* 1965; *Black Duck Distribution, Harvest & Survival,* 1971; and has provided numerous articles to professional journals.

Aircraft Management Staff

Eugene F. Steffen, 48, Chief, Aircraft Management Staff, is from Cleveland, Ohio. He received a B.A. degree from Kent State University in Ohio and an M.A. in geography and economics from the University of Michigan.

Before Steffen started work with the Bureau of Outdoor Recreation in 1964 as a resource planner in the Seattle Regional Office, he taught geology and geography at Kent State University and Slippery Rock State College. In 1966 he resigned to take a position as senior regional planner in Auckland, New Zealand.

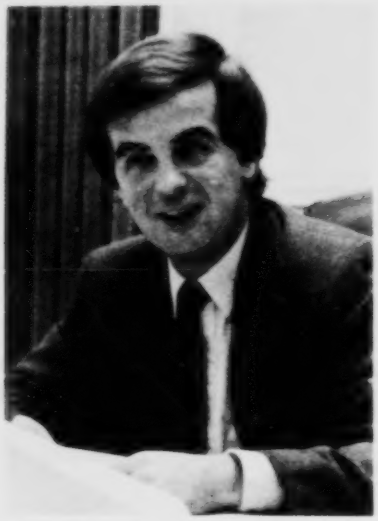
He returned to the States in 1969, taking a position in the Atlanta Regional Office of the Bureau of Outdoor Recreation. While with the Bureau of Outdoor Recreation he held regional office positions in Albuquerque and Atlanta as chief of State planning and urban affairs, resource studies, and grants administration. Steffen completed the Departmental Manager Development Program in 1973, and he transferred to the Fish and Wildlife Service in 1980. As Chief, Aircraft Management Staff, he is responsible for all the Service's aviation needs, including procurement, acquisition, and assignment.

Steffen has been actively involved in aviation for 26 years, accumulating over 5,000 hours of flying time. This includes experience as a military fighter pilot, airline captain, and flight instructor. He also served as an advisor and check pilot with the Civil Air Patrol.

Administration

Assistant Director

Joseph E. Doddridge, Jr., 38, acting Assistant Director—Administration, is from Buffalo, New York. He went to Niagara University in New York, graduating in 1963 with a B.A. in history and political science. He also attended George Washington University where his major fields of study were public administration and personnel management.



Doddridge began his career with the Department of the Interior in 1966 as a personnel management specialist with the Bureau of Mines. In 1969 he joined the Office of the Secretary, where he was promoted to chief, branch of programs and standards, and in 1970 to chief, branch of personnel operations. He was appointed personnel officer for the Service in 1975. In his position as acting Assistant Director—Administration, Doddridge is responsible for directing diversified nationwide programs for the orderly and efficient conduct of administrative management operations.

Doddridge has received awards for outstanding performance in 1972, 1973, 1976, 1977, and 1978. He has also participated in the Departmental Manager Development Program, the Federal Personnel Intern Program, and the Senior Executive Service's Development Program.

Division of Contracting and General Services

John S. Kutsko, 54, Chief, Division of Contracting and General Services, is from Duryea, Pennsylvania. He received his bachelor's degree in commercial science from the Benjamin Franklin University in Washington, D.C., in 1956.

His Federal career began in 1952 with the U.S. Geological Survey. He held positions as purchasing agent, assistant to the chief of the branch of service and supply, and chief of the property control section.

Kutsko joined the Fish and Wildlife Service in 1965 as the assistant chief of the division of property management. He was the chief contracting officer heading up the branch of contracts until July 1977 when he was appointed to his present position, where he is responsible for formulating and administering Servicewide policy and procedures governing contracting, procurement, and a wide range of general services.

He received the Service's superior performance award in 1968 and the Department of Interior commendation for outstanding work with the Alaska Planning Group in 1975. Also for his outstanding performance, Kutsko was the recipient of a quality performance award in 1978 and a special achievement award in 1979.

Division of Financial and Management Systems

H. Howard Hulbert, 47, Chief, Division of Financial and Management Systems, is from Elmira, New York. He received a B.S. in accounting from Ithaca College in New York in 1961.

Hulbert joined the Federal Government after 5 years with the Washington office of the international C.P.A. firm of Touche, Ross & Co., where he was a manager. Earlier private-industry experience included 5 years as assistant administrator-controller for Corning Hospital in New York and 3 years with Price, Waterhouse & Co. in Buffalo, New York.

He has been active in professional financial organizations both in the private and public sectors, including service as president of the Association of Hospital Accountants in Rochester, New York. Prior to joining the Fish and Wildlife Service in 1976, Hulbert was the assistant director of the office of management consulting in the Interior Department.

He has made several presentations at seminars and professional meetings on financial management and accounting in the nonprofit sector. This is his primary professional field of interest which led him to Washington and the Federal Government.

Division of Personnel Management and Organization

John F. (Jeff) Seitz, Jr., 47, acting Chief, Division of Personnel Management and Organization, was born in Fort Snelling, Minnesota. He attended West Point, and, after serving in the Air Force, received a B.A. in government from the University of New Mexico in 1963.

Seitz began his career with the Service in the Albuquerque Regional Office as a staffing specialist. He transferred to the Boston Regional Office as assistant personnel officer in 1966. Four years later, he moved to the Washington Office, where he has held a number of positions, including chief of the branch of personnel management evaluation, employee relations, and development. Seitz has been serving as acting Chief of the Division of Personnel Management and Organization since February 1980.

Office of Safety and Security

Bernard A. Borandi, 35, Chief, Office of Safety and Security, is from Pittsburgh, Pennsylvania. He earned his B.S. in biology from Duquesne University in 1966 and his M.B.A. from Central Michigan University in 1977. He has taken the National Defense University Security and the Air Force Command and Staff Management courses as well.

Pilot training at Vance Air Force Base, Topeka, Kansas, in 1966, was Borandi's first job with the Federal Government. After the service, he was the civilian director of safety at Hamilton AFB, California, for a year, transferring to Andrews AFB, Washington, D. C., in 1975. He then joined the Federal Energy Administration as the director of safety and served on the Presidential reorganization safety task force until 1978. Borandi was the director of safety in the Department of Justice for 2 years before assuming his present position with the Fish and Wildlife Service in 1980. He currently has overall responsibility for the Service's safety and security programs as well as serving as chief emergency planning officer.

Borandi has been awarded the Air Force Air, Vietnam Service, and Korean Expeditionary medals and the Presidential Unit Citation. He holds an airline transport and instructor pilot's ratings, enabling him to fly heavy transport, light supersonic, and bomber-type aircraft. Professionally he is interested in laboratory, explosive, and aviation safety.

Planning and Budget

Assistant Director

Adam A. (Dan) Sokoloski, 41, Assistant Director-Planning and Budget, is from South Deerfield, Massachusetts. He graduated from Deerfield Academy in 1957 and subsequently Middlebury College in Vermont with a B.A. in 1961; Purdue University with an M.S. in 1963; and a Ph.D from Oregon State University in 1967.

Before joining the Service, Sokoloski worked as a career Federal employee with both the executive and legislative branches. His work has featured economic and budget formulation in the areas of natural resources, with emphasis on agricultural and water resources as well as marine fisheries. His continuing interest has been focused in environmental quality decisionmaking and recreational use of resources. He has worked previously for the Economic Research Service in the Department of Agriculture, the former U.S. Bureau of Commercial Fisheries, the Environmental Protection Agency, and the National Commission on Water Quality.

Sokoloski joined the Fish and Wildlife Service in 1975 as chief of the Division of Program Plans. He then served as acting assistant director for Planning and Budget until his appointment as Assistant Director in July of 1980.

During his career, Sokoloski received a citation from former Vice President Nelson Rockefeller. He also received awards for outstanding published research from the Western and American Agricultural Economics Associations, and he was twice named Maryland State "Jaycee of the Month." In the past 10 years, Sokoloski has been listed in several national and international biographical references.

Division of Program Analysis

Kenneth F. Sippel, 54, Chief, Division of Program Analysis, is from Portland, Oregon. He attended Long Beach College in California and received a B.A. in public administration from the University of California at Berkeley in 1950. He received a law degree from the George Washington School of Law in 1960 and was admitted to the District of Columbia bar.

He began his Federal career as a management intern with the Bureau of Reclamation in 1950, and subsequently served as a management analysis officer with the Air Force and management analyst for the Bureau of Indian Affairs.

Sippel joined the Service in 1959 in order to establish a division of management analysis. In 1966 he was selected to head the newly-formed division of program analysis, primarily responsible for the budget.

Sippel has received the Department of the Interior's meritorious service award.

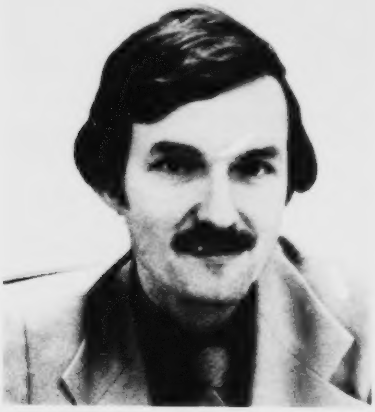
Division of Program Coordination

Samuel V. Moore, 60, Chief, Division of Program Coordination, is from Washington, D.C. He received a B.S. in business administration from the University of Maryland in 1942.

Moore has worked in the area of systems and management analysis for 30 years. He served in various capacities with the Navy management office from 1950 to 1964, and he was the principal staff advisor to the special assistant to the Secretary of the Navy from 1964 to 1966. While serving in this capacity, he earned the superior civilian service award. In 1966 he became chief of the division of management analysis for the National Park Service with responsibilities in the areas of management evaluation and automated data processing systems development. He joined the Fish and Wildlife Service as chief of the Division of Program Coordination in 1971. His office is responsible for developing and implementing a program to provide information to management on the status or progress of Service programs.

Division of Program Plans

Edwin A. Verberg, 34, Chief, Division of Program Plans, is from Palos Verdes, California. He attended California State Polytechnic University in Pomona and received a B.S. in environmental design in 1968. He obtained a master's degree in city planning from the University of California at Berkeley in 1970 and a doctorate in public administration from George Washington University in Washington, D.C., in 1975.



Prior to joining the Service, Verburg's experience included working on local long-range plans for three cities in California with populations over 100,000. The Southern California chapter of the American Institute of Planners recognized his contribution to recreation and conservation planning for the City of Glendale by presenting him a merit award in 1972. He also was a graduate associate with the Corps of Engineers for 1 year under its fellowship program. Verburg has been a senior regional planner and manager in fiscal analysis for the Metropolitan Washington Council of Governments where he was responsible for a series of five fiscal studies in the District of Columbia, Maryland, and Virginia. These studies were published by the Council in 1977. He also completed a financial management plan for the Council's areawide water resources plan.

Verburg joined the Service in 1977 as a senior program analyst for the habitat preservation category in the Division of Program Plans, being promoted to assistant division chief in 1979.

Public Affairs

Assistant Director

John A. Mattoon, 59, Assistant Director-Public Affairs, is from Hartford, Connecticut. He received a B.S. in forestry from Pennsylvania State University in 1943 and a master's degree in the same field from Yale University, where he served as an instructor, in 1950.

Following 3 years in the Navy as a carrier pilot, Mattoon began his Federal career as a forester at the Green Mountain National Forest in Vermont in 1946. During his more than 20 years with the Forest Service, his other tours of duty included Arapaho, Roosevelt, and San Isabel National Forests in Colorado and Siskiyou National Forest in Oregon as a forest ranger, and Olympic National Forest in Washington as a deputy forest supervisor. He moved to Washington to serve as staff assistant and assistant director of information and education for the Forest Service in 1960. Then he returned to the field as assistant regional forester for information and education for the Intermountain Region at Ogden, Utah. Three years later Mattoon left the Forest Service to return to Washington as director of public affairs for the Bureau of Land Management (BLM). While in this position, he helped create the "Johnny Horizon" program for BLM, which eventually became a Departmental effort and the environmental program for the Bicentennial. For this effort, he received the Department's meritorious service award in 1972.

Mattoon was appointed as the Service's first Assistant Director-Public Affairs in 1973. In this position, he supervises the Service's varied activities in public information, radio-television, and audio-visual presentations.

Current Information Staff

Alan M. Levitt, 35, Chief, Current Information Staff, is from Los Angeles, California. He received a B.A. in communications and public policy from the University of California at Berkeley in 1966 and an M.A. in public relations from the American University in Washington, D.C., in 1969.

He was a science teacher for the D.C. public schools, and has developed and taught a number of courses for the Smithsonian Institution Associates Program. He has worked also for the International City Management Association as an editorial assistant, and won an award for his news releases from the Society for Technical Communication.

Levitt joined the Service in 1970 as a biological technician for the Division of Fish Hatcheries, and initiated an information and education program at the National Aquarium. In 1973 he became the communications officer for the Division of Law Enforcement. He joined Public Affairs in 1975 as a national press officer. In 1978 Levitt became Chief of the Current Information Staff, which initiates news coverage to increase public awareness and understanding of Service activities and goals. He directs the preparation of national news releases, articles, brochures, and other informational materials; he supervises production of publications, including *Fish and Wildlife News*; and he responds to numerous inquiries from the national news media.

One of Levitt's special interests involves encouraging private businesses to support wildlife conservation activities in their public relations programs.

Audio-Visual Staff

Steven R. Hillebrand, 34, Chief, Audio-Visual Staff, is from Hermann, Missouri. He received his B.S. in commercial design from Central Missouri State University in 1967, and studied graduate-level photography and design at George Washington University in Washington, D.C., in 1970 and 1971.

His professional experience began in 1967 as a graphic illustrator and designer of publications and presentations with McDonnell-Douglas Corporation in St. Louis, Missouri. In 1969, after completing Naval Officer Candidate School in Newport, Rhode Island, he was commissioned and served with the Naval Air Systems Command in Washington, D. C.

Upon completing his tour with the Navy in 1971, he accepted a newly established position as director of design and audio visual with the National Audio Visual Association in Fairfax, Virginia. There he initiated and established designs for the Association's publications, and pioneered multi-media audiovisual presentations.

Hillebrand joined the Department of Justice, Drug Enforcement Administration, as assistant chief of graphics in 1972. As staff creative director for design, photography, and audio-visuals, he received several special achievement awards and an excellence of performance award.

He was also the recipient of a gold medal in 1976 from the Washington, D.C., Art Director's Club.

In 1978 he joined Public Affairs as visual information and arts specialist on the Radio/TV Program Staff. He was assigned to his present position in March 1980.

Radio/TV Program Staff

Michael L. Smith, 33, Chief, Radio/TV Program Staff, is from Cincinnati, Ohio. He received a B.S. in communications from Xavier University in Ohio in 1968 and an M.S. in conservation communications and journalism from the University of Wisconsin at Madison in 1972.

Before joining the Fish and Wildlife Service, he was an information officer with the Kentucky Department of Fish and Wildlife Resources, where he produced and hosted weekly radio and television programs. He served also as a staff writer for the department's bimonthly magazine, *Kentucky Happy Hunting Ground*.

Smith joined the Service in 1975 as a public information specialist for radio/TV and has been instrumental in the planning, production, and distribution of all national public service broadcast efforts the Service has developed since that time.

Public Involvement Staff

Norma O. Hauanio, 39, Chief, Public Involvement Staff, is from Halstad, Minnesota. She received a B.S. degree from North Dakota State University in 1963, and served her dietetic internship at the Veteran's Administration Center, Los Angeles, in 1964, where she received an R.D. (registered dietitian). Additional graduate work in public administration was completed at the University of Southern California and Golden Gate University.

After receiving her R.D., Hauanio stayed on the staff at the Veteran's Administration Center as an administrative and therapeutic dietitian for 2 years. She then accepted a promotion with the Dairy Council of California where she developed a nutrition and health program directed at industry in five southern California counties. In 1968 she became assistant director of the School Food Service in Rolling Hills, California, followed by a promotion to director of the School Food Service of the Beverly Hills School District.

Her Federal service began as coordinator of the consumer affairs office with the Food and Drug Administration (FDA) in San Francisco in 1972. Six years later she transferred to FDA's Washington office to serve as the industry liaison and information officer for the bureau of foods, developing a national education program directed at the food industry. Hauanio joined the Fish and Wildlife Service in July 1980 to head the newly created Public Involvement Staff.

She has been active in the American Dietetic Association, holding offices at the local, State, and national levels.

Research (continued)

Office of Scientific Authority

Richard Jachowski, 36, acting Chief, Office of Scientific Authority, is from Washington, D.C. After receiving a B.S. in zoology from the University of Maryland, he earned an M.S. from the University of Miami and a Ph.D., also from Maryland.

After completing his graduate education in 1970, Jachowski became manager of the Smithsonian Institution's Peace Corps Environmental Program. He later served as a Peace Corps volunteer under that program at the University of Nairobi in Kenya, where his assignment included teaching in its department of zoology and research on the ecology of corals in one of Kenya's marine national parks.

Jachowski joined the Fish and Wildlife Service in 1976 as a biologist in the Wildlife Permit Office, where he worked for 3½ years on implementing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). He also helped revise the Service's regulations on captive-born wildlife under the Endangered Species Act.

When the Service established its new Office of Scientific Authority in 1980 as part of its responsibilities under CITES, Jachowski was named acting chief.

His professional interests include international wildlife conservation and the biology of marine invertebrates.

The addition of the Office of Scientific Authority to Research was approved after the deadline for inclusion of this position in this issue's Research section.

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